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*GLIMPSES
OF
THE EARTH*

J. R. BLAYSTON

MORRISON AND GIBB, EDINBURGH,
PRINTERS TO HER MAJESTY'S STATIONERY OFFICE.



GLIMPSES OF THE EARTH

SEQUEL TO

GLIMPSES OF THE GLOBE, ETC.

BY

J. R. BLAKISTON,
AUTHOR OF 'THE TEACHER.'



GRIFFITH AND FARRAN,
SUCCESSORS TO NEWBERRY AND HARRIS,
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PREFACE.

THE following pages have been written to enable the young to take pleasure in acquiring, and at the same time to save teachers trouble in imparting, a knowledge of the earth's surface.

If, during every lesson, the pointer be unsparingly used on maps in which physical features are carefully marked, many such details as are usually learned by rote from lists given in text-books, will, by sheer familiarity and force of association, be more profitably committed to memory. The map indeed must be used as a panorama, and the following pages as the voice of a showman describing the scenes successively unrolled before the eyes of the reader. It has not, therefore, been deemed necessary to name what the unaided eye can hardly fail to take in of itself,—as boundaries of countries, etc.

Two years' reading in geography is here supplied ; but it is left to teachers to select for use in each year the portions most likely to be of service to their scholars.

As schools are now supplied with good maps, and as lifelike and fresh representations of scenery, towns, etc., from illustrated papers, are nowadays easily procured, it has seemed better not to risk distracting attention from the text, nor yet to add to the cost of the book, by the insertion of small maps and woodcuts.

NOTICE.

In the following pages the word *noon-ring* is sometimes used for meridian, and the word *day-ring* for parallel of latitude.

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GLIMPSES OF THE EARTH.

PART I.—GENERAL.

CHAPTER I.

THE EARLY WORLD.

OUR first glimpse of this earth in the far off ages reveals a molten ball wrapped in stormy vapours. As it cooled, floods of rain pouring down coated the earth's new crust with a watery waste shrouded in gloom. 'The earth was without form and void; and darkness was upon the face of the deep.'

Our next glimpse is of light at length struggling through the enfolding mists; of sun, moon, and stars beaming on the surface of the rolling ball. Moving freely round every part of the globe, the water, warmed by the inner heat below the earth's crust, maintained countless living things, whose remains may still be seen embedded in rocks. The sea kept the encasing air evenly warm and moist over every part of the globe.

Hence when at length patches of low land appeared here and there amid the sea, they were soon clothed

with a matted growth of huge grasses, ferns, reeds, lilies, palms, and such other plants as revel in damp heat. Quickly springing up, quickly dying, and giving birth to fresh growths, these early thickets and forests in the course of ages clogged the swampy soil with dense masses of decayed leaves, branches, and roots.

Coal-beds bear witness to a wondrous wealth of vegetation in those far off ages unseen by human eyes,—a verdure as far surpassing the present luxuriant vegetation of tropical lands as that surpasses the scanty herbage of arctic climes.

Around and amid lands thus overrun with rank growth, rolled the vast deep, teeming with life. There, through unnumbered ages, lived and died those countless millions of tiny shell-fish whose remains form our chalk cliffs. There the busy corallines built up walls of loveliest hues. Amid their reefs, begirt by endless groves of branching sea-weed, fathoms high, fishes of strange shape and monstrous size darted to and fro; the larger preying on the smaller, and themselves falling a prey to huge lizards,—some like fabled dragons, some with long snake-like necks, some like gigantic crocodiles, fifty feet in length. Of the bony frames of these monsters many millions are embedded in our limestone rocks.

In reedy swamps surrounding fresh water lakes and rivers swarmed gigantic toads, whose bulk enabled them to make their way amid grasses not less gigantic. Their footprints, amid prints of raindrops, are still found on slabs of rocks, which ages ago were mud. Enormous pressure at the bottom of oceans and underground has welded mud and sand into layers of hard

rock, and layers of roots, leaves, and stems into beds of coal.

So long as the earth's crust in cooling had only become so slightly wrinkled as to upheave lowlands here and there, chiefly about the equator, whilst water moved freely about the poles, warmth was evenly diffused over the whole earth. For land in and near the tropics, by absorbing the sun's rays, and thus warming the air, adds to the store of heat on our globe. Ice and snow had then no place anywhere on its surface. Storing up the heat sent into its depths from the inner crust, the sea spread warmth even to the poles during their six months' night. Thus the whole globe, warmed by its own heat as well as by the sun, teemed with plants and living things.

Then came a change. As the earth went on cooling, and its crust became thicker and more wrinkled, vast tracts of land were slowly upheaved between the north pole and the equator. In tangled thickets, and amid the mazes of boundless forests, browsed heavy beasts like the elephant or the rhinoceros.

As the land rising higher displaced the water, it chilled the overlying air, and changed the climate from one befitting such creatures as inhabit warm seas and hot lands to that which now reigns around the poles. Thousands of mammoths, or hairy elephants, embedded in Siberian ice, show the change from heat to cold which overtook them.

For land lying so that the sun's rays strike it slantwise, instead of slowly storing up heat as water does, quickly loses what heat it gets. Such land, too, especially if it be high, robs the surrounding sea of its

warm vapour, and thus chills the water. For air gets its heat not so much from the sun, as from the heated surface of land and also of water.

Then for long ages ice-fields bound the soil on which tropical forests had rotted ; ice-streams ploughed out valleys and scooped out beds for lakes. Grooves and scratches on our rocks, as also huge stones carried from far lands by icebergs, and stranded on hill-top or plain, give visible proofs of the ice age.

Some lands after having been slowly upheaved, slowly sank again below the sea, to be once more, or oftener, raised and lowered. For high in the hills, in the heart of continents, are millions of sea-shells embedded in the rocks, which must once have been a sea-floor.

In our own age many of the islands which stud the Pacific Ocean are the still sinking mountain-tops of a continent which once broke the surface of that vast sheet of water, and which may yet again be upheaved at some far distant age. It has been thought that the cracking of the earth's surface from north to south, and the doubling up of the rent edges which upheaved the Americas, drove the sea over the older lands and caused that great flood, of which all nations have traditions, when 'all the fountains of the great deep were broken up.'

CHAPTER II.

THE EARTH'S CRUST.

IN speaking of the earth's crust, we speak as well of what is below as of what is above the great water which fills its hollows. The highest known peak is but $5\frac{1}{2}$ miles above the sea, and no depths in the sea have been sounded quite as great as this. There are hills, valleys, and plains below as well as above the sea. Its average depth is reckoned as 12,000 feet, whereas the average height of land above the sea is less than 1000 feet.

The crust of the earth, which we are naturally apt to deem immoveable and fixed, is in fact always more or less changing both its form and its level. But the changes which we are able to note during our short lives are so slight as to seem trifling. Yet who that has dwelt near the sea-shore has not seen the waves fretting away the cliffs, rolling, grinding, and chafing the broken bits to round boulders and pebbles, and then hurling them against the rocks, to break off yet other bits? Who has not watched rills, brooks, and rivers hurrying seaward laden with mud, and using trunks of trees and stones as battering-rams to undermine their banks?

No sooner is land upheaved from the floor of the sea

into mountains and hills than frost and rain begin their wearing work, and day by day, year by year, carry the 'everlasting hills' bit by bit down to the sea.

Thus the work of destruction is always going on.

Nor is the work of construction less constant. If some lands are slowly sinking, others are slowly rising. Coral reefs are still a-building in warm seas, atop of sunken and sinking mountain tops, already crowned with dead coral. Fresh matter is still being brought up from below by volcanic outbursts.

Thus the very forces by which the earth during countless ages has been moulded into its present state are still at work, and some of them indeed are slightly under man's control.

With the hidden and unknown forces which have upheaved continents, and which keep the earth's crust still in motion, we are powerless to meddle. The destructive flood, however, which would otherwise undo man's masonry and tillage, may by man's skill and toil be made to add wealth to that earth which he has been bidden to 'replenish and subdue.'

Heavy rains falling on bare soil on hill-sides carry the soil down to the plains, and thence on to the sea. But if hill-sides and river-banks be planted with trees and herbage, their roots save the soil from being washed away.

There is reason to believe that many parts of the earth, once thickly peopled, and teeming with food and fruit, have been ruined by man felling the forests.

For not only do forests save soil from being washed away, but they also save it from loss of moisture. We all know how moist the ground remains in woods and

plantations during summer heat, when roads are dusty and open fields parched.

When the cedars towered thick on the mountains of Lebanon, Syria was a land 'flowing with milk and honey,' able to support flocks and herds, and to supply with food such famous cities as Tyre, Sidon, and Jerusalem. Now that the forests are gone, clouds of sand choke the traveller in the Holy Land, and cover its once fruitful valleys and plains.

By the waters of Babylon, on the wide plains of Mesopotamia, watered by the Euphrates and Tigris, once stood many great and wealthy cities, begirt by well-watered, well-stocked gardens and fields. The felling of the woods left the soil to be parched by the sun, and unable to supply aught but scant herbage and a few date-palms for the use of wandering mounted herdsmen.

Thus by right or wrong management of rivers and woods it is in man's power to change the climate of lands. A fruitful land, by wanton mischief or short-sighted selfishness, he may make barren. To the wilderness, by judicious planting, he may in time bring a return of moisture.

It is, however, only fair to add that the drying up of the inland seas, which once nearly sundered the north of Africa from the Sudan, may have seriously diminished the rainfall throughout Syria and the valley of the Euphrates, and that the fertility of the Mesopotamian plains was further ensured by artificial irrigation.

CHAPTER III.

EFFECTS OF UNDERGROUND HEAT.

IF the whole land on the face of the globe were pared off to the sea-level, there would be room for it all to lie in the deep bed of the Atlantic Ocean. Hence it is easy to believe that there was once nothing but water to be seen over the whole face of the earth, and that hidden forces, of whose power we know little more than that we are powerless to withstand or restrain them, may readily sink the land that now is, and upheave the floor of the sea to form new lands, tenanted by creatures more perfect than those now existing on the earth.

We know that the farther we sink underground below the upper hundred yards, the greater we find the heat of the soil. The increase in this heat as we go lower is such that at a depth of two or three miles it must be as hot as boiling water. Now we know with what force steam will burst a vessel from which it cannot escape. If water, then, finding its way through cracks in rocks, sinks to a great depth, the heat will turn it to steam strong enough to uplift the floor of the sea above its surface.

This, or something like this, is the force which first upheaved volcanoes, and still keeps them active; this is

the force which causes earthquakes. Pent in the bowels of the earth, steam throws up molten rocks with resistless force. Hurlled into the air like a fountain, the shattered rocks fall in a ring, and form a raised mound. Welling up from its middle, the molten matter spreads over the rim and pours down the sides of the mound. As it flows down it cools, hardens, and checks the following mass. Thus the pile rises higher and higher, till the force of the pent-up steam is less than the weight to be lifted. Then comes a lull, until once more the steam gains strength to uplift more molten stuff. Thus year after year, century after century, age after age, as fresh moisture finds its way through cracks to great depths, fresh force is made, and more matter upheaved. In this way have huge peaks been raised to a height of nearly four miles above sea-level.

60 Again, if a smooth-skinned apple be kept through the winter, in spring its skin becomes wrinkled. This shrivelling shows that the juices of the apple are being slowly dried up.

When the earth, in like manner, on growing older, parted with some of its heat, its skin or crust became shrivelled and wrinkled. What are the ups and downs on the earth, its mountains and hills, but wrinkles?—far less, too, when we look at their height, compared with the earth's thickness, than are the wrinkles on an old apple's skin. A grain of coarse sand on a globe six feet thick would fitly show the height of the earth's loftiest peak, compared with its thickness.

CHAPTER IV.

CONTRASTS.

HAVING already been round the world to catch glimpses of the various countries ruled by our sovereign, we have gained some little knowledge of every quarter of the globe. We have now to complete our survey.

Here and there we shall find tracts of which little or nothing is yet known. For many hundred miles around both poles our latest maps still show blanks.

Of some parts of Asia, and of many vast tracts of Africa, owing to the unwillingness of their dwellers to admit strangers, we still lack trustworthy knowledge. Thanks, however, to the toil, courage, and skill of hundreds of travellers, the greater part of the 52 millions of square miles of land on the globe is now fairly well known and mapped; while the 145 millions of square miles of water, being traversed night and day by hundreds of thousands of ships, have been carefully mapped on charts for their guidance, and for the avoidance of rocks, reefs, and crags.

Living on an island where extreme heat and cold are unknown, we have now to visit lands where the hottest day we ever felt would be deemed cool, and others where for months the cold is as much keener than our sharpest frost as our sharpest frost is keener than our

greatest heat. We shall visit lands where, save for decency, clothing is never needed, and others where to expose the body for a few minutes to the cold air without the warmest clothing were certain death.

Accustomed to walk where we will without fear of any kind, we shall visit lands where the savage natives would at once attack a stranger ; others where we could not stir abroad without danger from beasts of prey or poisonous snakes.

We look upon the earth as giving us sure and firm footing. We shall visit lands where many have felt the ground beneath them rocking, have seen buildings toppling, have heard the low muttering of some strange force, pent underground,—lands where in a few seconds tens of thousands of our fellow-creatures have been suddenly swept away, overwhelmed, or engulfed.

Our longest chain of mountains, or rather moorlands, stretches scarcely 200 miles, and lifts peaks to a height nowhere reaching 3000 feet. We shall visit lands where mountains stretch for thousands of miles, and of whose highest peaks hundreds soar higher than eight of our loftiest peaks piled one on another.

Our longest rivers are only some 200 miles long, and less than a few hundred yards broad ; and our largest river-basin is some 9000 square miles. We shall have to trace rivers from 2000 to 4000 miles long, and from 10 to 20 miles in breadth ; rivers fed by feeders upwards of 1000 miles in length and 2 miles in breadth ; rivers in whose basins might be laid many such islands as ours.

CHAPTER V.

DISTRIBUTION OF LAND AND WATER.

BEFORE going in detail over the various countries of the world, it may be well to take a general survey of the outline and surface of the great masses of land.

The greater part of the land lies north of the equator. If we turn a globe so as to place St. George's Channel right before our eyes, we see in the surrounding hemisphere as much land as water. When we turn the globe round so as to look straight at New Zealand, we find that only an eighth part of the surrounding hemisphere is land.

This unequal arrangement of land and water is thought to be to a very slight extent redressed by a vast tract of low land spreading around the South Pole. No towering pinnacles or buttresses of ice float northward from the Southern Ocean, like the lofty icebergs broken off from glaciers which drift southward from the frozen mountains of the north. Instead of these, flat ice-fields are drifted from the Antarctic, such as might be expected from frozen seas off the shores of a flat land. Around the North Pole, on the other hand, it is believed there is an open sea haunted by whales, though no man has yet seen it.

Having so much less land to become heated by the

vertical rays of the sun, the southern hemisphere is moister and cooler than the northern ; and from the fact that water absorbs and parts with heat so slowly, summer heat, as well as winter cold, is there tempered by excess of moisture.

On the other hand, since the earth is some three million miles nearer to the sun in December than in June, the sun's heat during the southern summer is greater than it is during the northern summer months. Hence in the stony wastes of inner Australia and the sandy Kalahari desert of South Africa, which the surrounding seas are too distant to temper, the sun's heat in January exceeds the greatest July heat recorded in the Sahara.

It will be further noticed that all lands have a tendency to form wedge-shaped peninsulas, tapering southward, abruptly ending in high promontories, and often flanked by outlying islands.

This tendency is most striking in the two equatorial and somewhat similar continents of Africa and South America ; the former ending in the bluff Cape of Good Hope, the latter in the island of Tierra del Fuego, with its lofty Cape Horn. Greenland and India have the same wedge-like shape. The latter has the mountainous island of Ceylon confronting the lofty peak of Cape Kumurin.

In Europe we see pointing southward the peninsulas of Norway and Sweden, Spain and Portugal, Italy and Greece, the two last flanked with islands. In Asia we see Arabia, India, Malacca, Corea, and Kamtchatka, all pointing southwards ; in North America, Aliaska, California, and Florida.

The forces which caused this arrangement are not yet understood. The coast-lines of Europe, Asia, and North America are much broken. Europe has no less than 26,700 miles of coast from the Polar Sea to the Sea of Azov, while Asia has 36,000 miles of coast, and North America 26,000.

Africa, which has thrice the area of Europe, has less than half its length of coast-line. Hence Europe, with thrice the proportion of coast-line to area that Asia has, has greater advantages for trade than any other quarter of the world. North America is better off than Asia; and even South America, smooth as is its outline, has more coast in proportion to its area than Africa, which, for lack of good ports, remains the least civilised part of the world.

CHAPTER VI.

SURFACE OF LAND.

THE upheaval of great mountain ranges from three to five miles above the level of the sea strikes us as something too stupendous to realize. But, in fact, the upheaval of the plains required far more force, owing to their enormous extent.

If we model clay after the likeness of plains, tablelands, and mountains, and surround it with water in a tray, we shall at once see that the outline of a coast is determined by the varying height of the clay, and that there will be most gulfs, bays, and other inlets, where there are most hills near the water's edge.

The arrangement of the great chains of mountains in the Old World or Great Continent is at right angles to that in the Americas. In the latter we trace a lofty range from the extreme south close along the eastern shores of the Pacific, in a north-north-west direction from the 55th south to the 65th north parallel. In the Great Continent we may trace a wide belt of mountains half round the northern hemisphere, from Behring Strait, in a west-south-west direction, to Cape Ghir, on the north-west of Africa.

The width of this belt is greatest on the shores of the Pacific, where it stretches from the 67th to the 25th

parallel, and narrowest on the eastern shores of the Atlantic, where its limits are the 30th and the 43d parallels.

The most striking thing in connection with the great mountain chains is the ring of fire, that is, the circle of active volcanoes, to be traced round the shores of the Pacific.

Starting from Mount Erebus, which lifts its fiery, smoke-crowned head more than 12,000 feet above the sea, amid the snow-clad mountains of South Victoria Land, we trace this ring northward by New Zealand, Java (a very hot-bed of volcanoes), Japan, the Kurile and Aleutian Isles; thence eastward to Aliaska, and southward along the west coast of the Americas.

North of the great belt of mountains, in the Great Continent, spreads a vast plain, with a northward slope from the Bay of Biscay to the Arctic Ocean. To this plain the mountains slope gradually by a series of terraces and outliers. It is broken only by the British highlands, the Scandinavian mountains, and the Ural belt. All these ranges run mainly north and south; but in Norway alone do they reach any great height. Southward the great belt for the most part presents steep slopes. At their feet a vast tract of sandy and stony desert may be traced from the Sahara across Arabia, the delta of the Indus, the Sea of Aral, to the desert of Gobi. The latter is within the enclosure formed by the mountains of Central Asia. The Sahara is the upheaved bed of a great gulf which once severed North Africa from the tableland of Central Africa. The Asiatic desert was the bed of a great inland sea, stretching eastward from the Mediterranean by the

Black, Caspian, and Aral Seas. South of this belt of desert lie the fertile (because well-watered, and hence also thickly-peopled) lowlands of the Sudan, the Ganges, Further India, and China. The southern projections both of Africa and Asia are high tablelands, propped seaward by lofty mountains.

In America the land slopes mainly eastward from the great chain which lies along its western coast, though in the southern part of North America the drainage is turned southward to the Gulf of Mexico by an outlying range near the south-east coast. In both continents it will be noted that the sharp slopes of the mountains confront the *Great* Ocean, that is, the Pacific and Indian; while the gentle slopes trend to the narrower Atlantic and Arctic Oceans.

For a general view of the surface of the earth, this brief sketch may suffice till we go over each part more in detail.

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CHAPTER VII.

WINDS.

To understand the cause of the winds prevailing over different quarters of the globe, and of the calms about the poles and near the equator, it should be remembered—(1) that air becoming lighter as it grows warmer or moister, rises above colder or drier air ; (2) that whereas at the equator the surface of the earth is spinning eastward at the rate of more than a thousand miles an hour, at the 60th parallel it has only half that speed, while the actual poles have no such movement ; (3) that the air is whirled eastward along with the earth, and at the same speed as the underlying parts of its surface.

The air, then, overlying those parts of the torrid zone which for the time being have the sun overhead, on becoming heated, rises. To replace it, cold air rushes in from both poles. Starting with a slower eastward movement than the various lands and seas over which it sweeps in its passage across the tropics, this cold air meets and strikes against lands and seas north of the equator, with a south-westerly bearing, and south of it with a north-westerly¹ bearing. Hence in the north

¹ North-east winds blow towards the south-west, and south-east winds blow towards the north-west.

torrid zone north-east winds prevail; in the south torrid zone south-east winds. Just so, if we run or ride through still air, our very speed makes the air blow in our faces. When rain is falling down straight in still weather, if we run or ride through it quickly, our own speed makes the rain meet us slantwise, as though blown in our faces. When, however, wind is blowing rain aslant, if we run before the wind at its own speed, the rain falls straight upon our heads. If we run to meet the wind, the rain will be blown almost level into our faces. If we run eastward when a north wind is driving the rain, it will strike our faces as a north-east wind would if we were standing still.

The wind, then, which prevails so steadily in the north torrid zone as to be called the trade-wind, blows from the north-east. In the south torrid zone the trade-wind from the south-east blows yet more constantly and over a wider belt, because less hindered by land. Where these winds meet, they check each other, and produce a belt of calms. Owing to the greater breadth of the zone of south-east trade-winds (due to the greater expanse of water in the south), this belt of calms extends farther to the north than to the south of the equator. It is not, however, always in the same latitude, but follows the sun's apparent movements northward and southward. Thus, in summer, when the north torrid zone has the sun overhead, the belt of calms is found farther north of the equator; in winter, when the south torrid zone has the sun overhead, the belt of calms moves southwards. It usually covers some six degrees of latitude. Within the tropics, then, the air has two currents, one overlying

the other, moving in opposite directions, and crossing each other in the belt of calms.

The cold air drawn from the north to replace the heated air that rises from the northern tropics, becomes heated in its southward career. It then, in its turn, rises from the belt of calms, and goes on its way southward, at a height of two or three miles above the earth's surface, towards the south temperate zone. Becoming colder as it soars southward, it there swoops down upon the earth's surface. But in crossing the equator it has acquired the earth's swiftest eastward speed. Hence when it drops upon the more slowly spinning tracts of the south temperate zone, it is there felt as a north-west wind. Passing on southward, it reaches the southern polar regions, where the meeting of opposite currents again produces calms.

Again, the cool air which overlies the south temperate zone, being drawn northward to replace the air which rises from the southern tropics, becomes heated in its passage, and rising in the belt of calms, flows northward as an upper current towards the north temperate zone. Descending there with the greater eastward speed acquired in crossing the tropics, it finds the earth's surface lagging behind, as it were, that is, spinning more slowly eastward than itself, and hence makes itself felt as a south-west wind, and sheds refreshing showers on the western slopes of Europe and North America.

Thus, if the surface of the earth were covered with water, south-west winds would be always blowing over the north temperate zone, and north-west winds over the south temperate zone; north-east winds within the

Tropic of Cancer, and south-east within the Tropic of Capricorn.

But land lying under the vertical rays of the sun absorbs far more of their heat than water does. Hence when the sun hangs over the Tropic of Cancer, where lie the great land masses of Asia, Africa, and America, the scorched soil heats the overlying air, and thus causes in-draughts of cooler air from the surrounding seas. This, of course, disturbs the general direction of the prevailing winds, and gives rise to the monsoons or seasonal winds.

In the winter months, when the southern or water-hemisphere is under the sun, and the great land masses have cooled, this cause of disturbance is at its lowest. Over the Pacific Ocean, as being a vast sheet of water unbroken by large masses of land, the trade-winds, and their return currents, blow more constantly than over the Indian and Atlantic Oceans.

Thus is the whole air kept in endless motion, so that every breath of it in its turn may visit every part of the earth. Thus are foul gases dispersed, the excessive heat of torrid climes carried off to temper the excessive cold of ice-bound regions, and the cold of the latter used to cool the excessive heat of the former. Thus are the waters of the sea carried off as vapour to be dropped as reviving rain upon the land.

CHAPTER VIII.

AIR—MOISTURE.

As air gains warmth it gains power to take up and hold moisture. Hence winds moving from colder to warmer climes take up moisture as they advance. The north-east trade-wind, blowing across the desert of Gobi, Turkistan, the valley of the Indus, Arabia, and the Sahara, licks up moisture as it sweeps onward, and turns to deserts, by perpetual drought, lands which moisture would make fertile. When, however, after crossing the ocean, the moisture-laden trade-winds are chilled by cold mountain-tops, they drop their garnered fulness down upon the land. Hence the mighty rivers of Southern Asia are fed by the north-east trade-winds, and the yet mightier streams of Africa and America are fed both by north-east and south-east trade-winds. The latter winds near their origin take all moisture from central and western Australia, and the Kalahari desert of South Africa.

East winds in England are cold and dry in spring-time, because they are then moving from colder to warmer climes,—from the frozen plains of Northern Europe to the warmer Atlantic. In summer, when they blow from the heated plains to the cooler ocean, east winds are warm.

On the other hand, as air becomes cooler it loses its power of retaining moisture. Hence the south-west winds drop rain on the west of Europe and North America, as the north-west winds on New Zealand and the west of South America.

Winds that pass over large tracts of colder land part with their moisture as they advance. Hence the south-west wind that blows rain-clouds over Spain blows over the steppes of the Caspian and Asia as a dry wind.

America, presenting narrower tracts of land from sea to sea than the Great Continent, has comparatively few dry regions, and those of no great extent.

It is through the action of winds that the climate of hilly tropical islands and coastlands is so healthy and delightful. Breezes set in over them from the sea during the day to replace the air rising from the quickly heated land. At night the land quickly cools, while the sea retains its heat. Hence breezes then set seaward from the colder land to the warmer sea. At morning and evening there is stillness, because then both sea and land have the same temperature.

The power which water has of storing up heat, and parting with it slowly, gives to islands cooler summers and warmer winters than continents enjoy, where excessive dryness of air makes the winters very cold. This same dryness of air makes it easier to bear intense cold. We all know how much more keenly we feel cold, damp, 'raw' weather than sharp, dry frost. Absence of wind, again, enables the Siberian and North American trappers to bear intense cold. The two coldest places known are both on the 80th parallel of north latitude, —in Eastern Siberia, 95° east longitude; in North-

West Territory, 100° west longitude. Both are in the region of polar calms, where there is perfect stillness in the air during winter. Winds, by causing evaporation from the skin, make great heat more bearable in hot climates, as, by carrying off the heat of the body, they make intense cold fatal to man.

CHAPTER IX.

CURRENTS.

THE general courses of the ocean-currents tally very closely with those of the air. Heated by the vertical rays of the sun at the equator, much of the surface of the water is turned into vapour, while the rest, becoming lighter, flows northward and southward to the poles atop of the colder water which flows to replace it.

Were there no land, then, on the earth's surface, there would be a steady upper flow of warm water northward and southward from the tropics, and a steady underflow of cold water along the floor of the sea toward the equator from both poles, to replace the heated surface-water.

In confined tropical seas, this surface-water by losing vapour becomes salter, and therefore heavier than that which lies beneath. The latter thereupon rises to replace it. This is well seen in the Red Sea, so called from red patches, varying in size from a few yards to some miles, caused by dense masses of tiny creatures. Receiving no fresh water from the steep cliffs which encircle it, nor any rain from the clouds, its surface, lying under a hot sun, becomes salter and sinks. To replace it, water from the Indian Ocean rushes through

the Straits of Bab-el-mandeb along the surface, while the heavier salter water flows outward along the floor.

In the great oceans the salter water, sinking to the bottom, is used by the corallines, shell-fish, and other sea creatures, for their buildings, shells, and bones. As they take from the water the lime and other salts needed for their structures, the water, becoming lighter, once more mounts to the surface. Thus do countless millions of tiny creatures keep the water of the sea constantly shifting from one part to another.

Like the air, the water at the equator spins eastward along with the earth at the rate of a thousand miles an hour, but the water along the 60th parallel spins eastward with only half that speed, while at the actual poles it has no such motion.

Hence the currents from the poles to the equator, unable to acquire its speed, lag behind, and instead of keeping their northerly and southerly direction, gradually curve westward.

For a breadth of 3000 miles the whole surface of the sea in the tropics flows westward at the rate of more than ten miles in twenty-four hours. In the Pacific this stream spreads as far south as the 26th, and as far north as the 24th parallel. Narrowed by the East Indian Archipelago, it passes into the Indian Ocean, and after a course of more than 17,000 miles, finally reaches the eastern shores of Africa.

From this great equatorial current a warm stream sets north-eastward through the Straits of Malacca and the China Sea, and thence between the Philippines and Japan. Southern Japan owes to the Black Stream, as it is called, her mild moist winters. From the northern

islands its course is turned by a cold current setting southward from the Sea of Okhotsk. At the meeting of these currents off Yezo, the Kuriles, and Kamtchatka, occur fogs, as off Newfoundland at the meeting of the warm Gulf Stream and the cold Labrador current.

These fogs are caused by the warm moisture which overlies the southerly currents being chilled by the approach of the cold northerly current. Just so in autumn, while the damp soil of our warm valleys is overlaid by a downfall of cold air, fogs arise in the hollows.

It is worthy of note that the cold current from the Sea of Okhotsk is not less noted for its fisheries than is the Labrador current off Newfoundland.

Another warm stream bending southward between Australia and Africa ends in a dense mass of floating sea-weed, which is encompassed by cold north-easterly currents from the Southern Ocean. These currents bring ice-floes as far north at times as the 36th south parallel, and sweeping along the west of South America, serve to cool the heat of Peru and of Southern Africa, and the south-western shores of Africa and Australia.

In the Atlantic the equatorial current sets from the Gulf of Guinea toward Cape San Roque. Splitting there, it sends off one branch south-westward along the shores of South America, and another north-westward to the West Indies. Sweeping round the Gulf of Mexico, the latter rushes through the narrows of Florida at the rate of nearly five miles an hour. The Gulf Stream, which is here thirty-two miles broad and a hundred fathoms deep, is the mightiest and most important river in the world, having a swifter course and

a thousand times larger volume than the Amazon, the Congo, or the Mississippi.

The Gulf Stream itself comes to an end off the Azores, but its current is continued by the driving of the prevailing south-west winds. Reaching the banks of Newfoundland in its northerly course, the warm current is thence driven north-eastward to the British Isles and Norway; maintaining summer heat after a course of 3000 miles amid cold water off both banks and bottom, the warm current spreads like a fan from the Canaries to Iceland, laps our western shores with its warm current, and finally sweeps between Spitzbergen and Nova-Zembla as it hies northward. Near the Azores the Gulf Stream bends southward to rejoin the equatorial current off Cape Verde. In the water enclosed by this bend is the Grassy Sea, a dense mass of golden weed like that already named in the Southern Ocean.

To the warm water thus driven north-eastward by the prevailing south-west winds the British Isles owe their moist climate and their freedom from the long frosts which seal the ports and bind the rivers and lakes of lands far nearer to the tropics. Besides the cold Labrador current which chills the eastern shores of North America, and the Okhotsk current which chills the eastern shores of Asia, there is yet a third cold current which sets along the eastern shores of Greenland. Thus, in the northern hemisphere the eastern shores, and in the southern hemisphere the western shores, are exposed to cold currents; while the western shores of northern lands, and the eastern shores of southern lands, are lapped by warm currents.

On comparing the direction of the air-currents with the ocean-currents, it will be seen that in many parts the winds strengthen the latter by blowing in the same way. In many parts of the sea the winds blow strongly enough to carry the currents along with them. Hurricanes, indeed, caused by the meeting of opposing winds of varying temperature, have strength to raise destructive walls of water, and to hurl them over lands lying in their paths.

CHAPTER X.

RAIN, SNOW, AND VAPOUR.

RAINFALL depends not merely on winds and currents, but on the arrangement of mountains. It is, therefore, very unevenly distributed over the earth. The number of rainy days in a year is no index to the amount of rain that falls at any place. On the whole rainfall increases with increase of heat, and therefore of evaporation, from the poles to the equator, but the number of rainy days is greater near the poles than near the equator. In most of the Sahara there is, on an average, not more than one shower in twenty years. In the Kalahari desert of South Africa and the interior of Australia rain is very scarce. The steppes and deserts of Central Asia, from the Caspian to the desert of Gobi, and the central tableland of Arabia, have but a scant share of moisture. The reason in each of these cases is not far to seek. High surrounding mountains chill the prevailing winds that bring up moisture from the sea, tap the rain-clouds, and thus rob the lands beyond.

In like manner, the south-east trade-winds blowing over the vast basin of the Amazon shed their moisture on the eastern slopes of the Andes, and have not a drop left for Peru, on their western slopes.

On the western side of these mountains the air is so

intensely dry as to absorb, without first melting, the powdery snow on their summits. The juices of any dead animal are there so quickly dried up that no carcase ever needs burial.

The effect of hills in arresting rain is well seen in the Khasia Hills at the head of the Bay of Bengal, where a fall of over 50 feet of rain in one year has been recorded. The average fall on the east of England is only 2 feet, in Ireland 3 feet.¹

The amount of vapour rising in the belt of calms so much exceeds what the air can hold, that heavy showers fall there almost every afternoon. Hence the East Indian islands, the Sudan, and the north of South America are the wettest parts of the earth; yet even there, night, morning, and evening, are usually free from rain:

In tropical lands the rainy seasons follow the course of the winds, which, as we have seen, are governed by the sun's apparent movements. With fewer rainy days in a year, the torrid zones have a far heavier rainfall than the temperate. In the former, no rain falls for months together; in the latter, rain falls throughout the year. The south temperate zone, owing to the excess of sea there, has far more rain than the north temperate. The western shores of Patagonia are as rainy as those of Peru are dry, because the lofty Andes there chill the prevailing north-west winds, which bring moisture from the broad Pacific.

At a certain height above the sea, even near the equator as well as at a certain distance north and

¹ The rain received in a tub which allowed none to escape would at the end of a year be of the depth stated.

south of it, snow takes the place of rain. The height of the snow-line north and south of the equator varies with the seasons, being at its highest in the northern hemisphere in summer, in the southern in our winter, which is, of course, the summer of the South Pole.

In winter the whole of the lowlands of Europe are liable to snow, as are also all parts of Asia north of the tropics; whereas, in North America, snow never lies on the lowlands south of the 48th parallel.

Snow, keeping in the earth's heat as a blanket, protects the roots of trees and plants in Arctic climes against the intense cold of the frosty air.

In summer the snow-line of the Alps and Pyrenees has a height exceeding 8000 feet; that of the Himalayas varies from 13,000 to nearly 19,000 feet, being higher on the north side than on the south, owing to the dry heat of Central Asia. The snow-line of the great American chain at its highest is 18,000 feet on the west side.

At Cape Horn snow never melts at a height of 4000 feet; off the north coast of Europe it never melts at a height of 2200 feet above the Arctic Ocean. Thus, at a height of 18,000 feet above the sea at the equator, we have the same cold as on the sea-level at a distance of 4500 miles north or south of the equator.

As snow prevents the escape of the earth's heat in Arctic lands, the unseen vapour of the air prevents the total loss during the night of the sun's heat absorbed by the earth during the day. We all know the effect of the vapour which we can see, namely, the clouds, in checking the escape of the earth's heat during the night. The gardener knows that clouds save him the trouble

of protecting his plants from night frost. But even on cloudless, starlight nights, the air abounds with vapour, which we see in the morning lying as dew on every leaf and blade. Were *all* vapour removed from the air, the cold at night would be too intense for any living or growing thing to withstand. Now the air overlying the middle of continents has very little vapour. Hence the nights there are very cold.

In the Sahara and the interior of Australia, the sand at mid-day becomes hot enough to make water almost boil ; before sunrise it is cold enough to turn it to ice.

Bearing in mind what has been said of winds, currents, rain, snow, and air, we now know what climate to expect in different quarters of the world.

CHAPTER XI.

TIDES.

BESIDES the currents in the oceans caused by heat and winds, the depths of the sea are stirred by the attraction of the moon and sun. The influence of the former, being so near, is far greater than that of the sun. The effect of their attraction is to draw upward the water for the time being turned toward them. They produce the same upheaval in the part turned away from them by attracting the earth away from the water. Hence at new moon, when sun and moon are both in a line on the same side of the earth, and pull both in the same direction, their effect is greatest, and tides are highest. At full moon, again, when sun and moon confront each other on opposite sides of the earth, their joint effect produces tides as high as at new moon. Both these are called spring tides. They follow every new and every full moon. Midway between these periods, the sun and moon act at right angles to each other, instead of in the same line. As the sun then helps to undo the moon's work, neap tides occur, during which the surface of the sea rises and falls far less than in spring tides.

To tides all great river-side seaport towns owe their importance. Stemming the seaward flow of rivers

twice every twenty-four hours, tides enable ships to bring goods into the heart of lands.

Rivers emptying themselves into inland seas, such as the Mediterranean, the Baltic, and the Black Sea, or, still more, the Caspian, have no such advantage, since these landlocked sheets of water have little or no share in the great tidal swell.

In the northern hemisphere, the interference of land greatly hinders and complicates the action of tides. In the Southern Ocean, however, sun and moon have their full effect. When the moon, whether new or full, is in that part of her path which brings her nearest to the earth, a vast ridge of water follows in her wake, as the waters of the Antarctic roll beneath her beams. This great tidal wave, stirring the ocean to its very bottom, follows a north-westerly course. It may be traced northward along the western shores of South America, but among the network of islands in the Pacific it is so hindered as to be barely perceptible. Towards India, however, it rushes with such speed that high water at Cape Kumurin quickly follows high-water off Tasmania. Up the Atlantic it rushes with great but varying speed, reaching Newfoundland on the west in twenty-four hours; while on the east side, in the same time, it has reached little farther than Cape Verde.

Turning eastward, and reaching the western shores of Britain on the morning of the second day, the tide sweeps round Ireland, up St. George's Channel and the Irish Sea. Doubling the north of Scotland, by noon-tide it reaches Aberdeen, Denmark, and Norway. Thence rushing southward, it reaches the mouth of the

Thames at midnight. By the morning of the third day after quitting the Southern Ocean, it has brought high-water to London Bridge. North of the Strait of Dover it meets and cancels the tide sweeping eastward up the English Channel.

The time taken in passing round our shores is due to the shallowness of our surrounding seas, and the resistance of their floors. In the deep oceans the tidal wave travels at the rate of 1000 miles an hour. It takes longer to traverse the 500 miles from Aberdeen to London than to sweep from Cape Horn to North Cape, a distance exceeding 8000 miles—a third of the whole circumference of the globe.

A tidal wave must be carefully distinguished from a current. In the latter, the water itself moves onward ; in the former, it only heaves up and down in the open sea ; though in channels, inlets, and shallow bays, the uneven bottom and coast-line turn this upward motion into forward, backward, and sideward movements.

CHAPTER XII.

THE RACES OF MANKIND.

THE most numerous of all the races of mankind are the yellow-skinned Mongolians¹ or Turanians, who dwell chiefly in the east of Asia. Of the 1500 millions of human beings now on the earth, about 630 millions are of this family. Once, at least, in times past, they were an encroaching and conquering race. Swarming westward at the beginning of the thirteenth century under Genghiz Khan, they extended their conquests to the plains of the Danube, and southward over the north of India. In the west, the Hungarians, Turks, and a few scattered tribes along the shores of the Arctic Ocean, are of Mongolian race. The Chinese and Japanese empires are peopled entirely by this family. Their religion is called Buddhism. They treat their ancestors with great veneration, and their fathers with respect.

More powerful, though somewhat less numerous, is the white Aryan or Indo-European race, which now peoples almost all Europe, Persia, and the north of Hindustan.

To this family belong the Kelts, who, swarming westward ages ago, peopled all Europe, after subduing earlier settlers akin to the Finns. The Welsh, Irish,

¹ Sometimes spelt Mogholian.

Cornish, and Scotch Highlanders, and some dwellers by the Bay of Biscay, are of Keltic race.

Of the same or a kindred stock were the Medes and Persians, who remained in the early home of the race, the tableland of Airan or Persia; the Greeks, who, as soldiers, were our forerunners in India, and who have left us models in every branch of art and literature; the Italians, once masters of Western and Southern Europe and Northern Africa; the Teutons or Germans, who still people the north-west of Europe, including our own isles; and the Sclavonians, who people Russia, Poland, and the Balkans.

More nearly akin to these than to any other race are the Semitic and Hamitic peoples. The former include the Tyrians, whose seamen traversed all seas, and founded settlements in foreign lands; the Jews, to whom we owe the Bible and Christianity; and the Arabs, who in the eighth century founded the great empire of Bagdad.

To the Hamitic peoples belong the Egyptians, Abyssinians, and Kabyles of Northern Africa.

Two other races, very different from the above-named, are the Negro of Central and Western, and the Bantu of Southern Africa.

In the East Indies, Malacca, New Zealand, Madagascar, and many of the Pacific Islands, we find a brown-skinned race, sometimes called Malays, deemed by some a distinct family, by others a branch of the Mongolians.

In the Americas we have the redskins—a copper-coloured race, thought, from their language, to be all of one stock. In the northern continent, the redskins

have been to a great extent supplanted and replaced by white settlers, along with some negroes originally brought from Africa as slaves. In South America, the original tribes still roam over vast tracts in the interior. The stunted Eskimo, in the extreme north, are akin to the Lapps, Finns, and Samoyedes, who roam the ice-fringed northern shores of Europe and Asia.

CHAPTER XIII.

ANIMALS AND PLANTS.

MAN alone of animals is found in every quarter of the earth. Animals and plants have a more limited range, which man's mastery over nature is powerless greatly to extend. The distribution of animals depends upon that of the plants on which they live. The distribution of plants depends entirely upon climate.

It has been elsewhere remarked, that in the tropics a height of about 18,000 feet above the sea-level gives a range of climate equivalent to a distance of 4500 miles north or south of the equator, so that on the sides of tropical mountains, we may find the same varieties of plant-life as in passing from the tropics to the Arctic Circle.

Hence in mountainous countries within the tropics every plant may be grown, from the lowly moss and creeping lichen to the lofty palm. Here, then, is found the greatest variety both of plant and of animal life. Here live the great beasts of prey, whose mission is to keep down the numbers of deer and other grass-eating animals, which might otherwise destroy all herbage. In tropical jungles lurk the tiger, leopard, panther, and jaguar; in tropical deserts, the lion hunts the herds of antelopes and zebras; in tropical lakes and rivers, croco-

diles and alligators devour thousands of fish ; in tropical forests, the great apes haunt lofty trees and feed on coco-nuts and other fruits.

In tropical lands man is not seen at his best. There heat saps his vigour and makes him indolent. In temperate climes grow the crops best fitted for his food, as rice, maize, wheat, oats, grapes, oranges, plums, peaches, figs, apples, etc. There thrive the useful horse, ass, ox, and sheep. There have always lived the leading races of mankind, while the tropics have been, and still are, tenanted mainly by savages.

It is worthy of note, however, that spring-like climates, where there are no great contrasts, but a genial warmth throughout the year, are not so favourable to the development of vigour and energy as climates where men are braced by alternations of heat and cold.



PART II.

THE OLD WORLD, OR THE GREAT CONTINENT.



CHAPTER I.

GENERAL SURVEY.

It has been already remarked that the greater part of the land which covers nearly two-fifths of the earth's surface is massed around the British Isles. To take a general survey of that part of it which lies to their east and south, let us suppose that we have mounted into the air, higher than balloon ever yet rose; and that as we soar eastward, we are able to see infinitely farther than eagle or vulture over Europe, Asia, and Africa. A good map of what we call the Eastern Hemisphere, because it shows the land and sea lying mostly to our east, will enable us to take this bird's-eye view.

We should then see Europe as a great peninsula, projecting westward from Asia into the Atlantic. Were the flat land north of the Caucasus, between the Sea of Azov and the Caspian, once more, as of old covered with water, this view of Europe as a peninsula

of Asia would be clearer still. A rise of only twenty feet in the surface of the Black Sea would cause its waters to overflow into the Caspian, between the deltas of the Don and the Volga. Before the waters of the Caspian were withdrawn from all connection with the ocean, and then dried away to a depth of more than eighty feet below the level of the Black Sea, they spread northward over the salt marshes of the Kirghiz steppes, as far as the 50th day-ring. The isthmus connecting Europe and Asia, between the Arctic and the Caspian, was then less than 20 degrees of latitude, or less than 1400 miles; whereas Asia at its greatest breadth from north to south, from North-East Cape to Singapore, along the 105th meridian, stretches over 76 parallels, or more than 5000 miles. It would take eighteen months to walk from Cape Chelyuskin southward to Cape Romania, at the rate of ten miles a day. Nearly forty-three islands as large as Great Britain might be carved out of this great western peninsula, Europe. More than four and a half Europes might be carved out of Asia. Thus the whole tract of land stretching from the British Isles eastward to the Pacific would suffice to make nearly 240 Britains. To walk from the coast near Lisbon to East Cape on Behring Straits, we must cross 200 meridians between the 40th day-ring and the Arctic Circle, a distance of some 9000 miles. The whole area of Eurasia exceeds 21 millions of square miles.

Turning our gaze southward, we see another vast tract of land, not, like Eurasia, bristling with peninsulas, nor yet begirt with islands, but thrusting 5000 miles southward across the equator into a waste of water, a blunt wedge of cliff-edged tableland, presenting high

but even barriers both to the Atlantic and to the Indian Oceans. Against this wall-like coast the waves beat with incessant but vain endeavours to gnaw out inlets, such as they have worked in the shores of Europe and Asia. The area of this vast tract is more than thrice that of Europe, and would make about a hundred such groups as the British Isles.

This rock-fringed tract is parted from the south of Europe by the great inland sea, whose very name, Mediterranean or Midland, denotes its lake-like character, being almost what the text-books say of lakes, 'water entirely surrounded by land.' This great arm of the Atlantic Ocean is 2000 miles across from east to west.

The Isthmus of Suez, by which the north-easterly corner of Africa was joined to Asia, has been lately severed by human toil, so that the waters of the Mediterranean now flow through nearly a hundred miles of canal 240 feet wide and 26 feet deep, and allow some 1500 great ships to pass every year between the Mediterranean and the Red Sea. The latter, which is a gulf of the Indian Ocean, may be regarded as a long narrow lake parting the north-east of Africa from the south-west of Asia, the mountains of Nubia and Abyssinia from the tableland of Arabia.

There is reason to believe that less than 3000 years ago the Red Sea and the Mediterranean were dis severed by an upheaval of the low sandy ground which now parts them.

CHAPTER II.

EURASIA.

THERE are some points of likeness between Asia and its western offshoot which it is worth our while to notice.

Each of them sends out three southern peninsulas. Arabia, with its even outline and square mass, the most westerly of the Asiatic peninsulas, projects from the south-west of Asia, somewhat as Spain from Europe, and bears the same proportion to its mother continent. India, with Ceylon, corresponds to Italy with its foot-ball, Sicily ; Further India and the Malay peninsula to Greece and the Morea ; the group of the East Indies to the isles of the Grecian archipelago.

Off the north-eastern corner of Asia we note the peninsula of Kamtchatka thrown out into the Pacific as the Scandinavian peninsula from the north-west of Europe into the Atlantic, and the group of the Japanese Isles corresponding to the group of the British Isles. In both these outliers we find the chief mountain ranges running lengthwise north and south. Then, again, we have the Sea of Okhotsk tallying with the Baltic, the Sea of Japan with the German Ocean.

Again, the main mountain ranges of both Europe and Asia lie far nearer to their southern than to their

northern shores ; and both have a direction mainly east and west.

Between these main ranges and the Arctic Ocean lies a vast plain from the Bay of Biscay to Behring Strait, across which, from north to south, for 1200 miles, a low partition wall is raised by the Ural Mountains, of which the loftiest summits rise little more than a mile above the sea, and which in most parts are easily crossed by carriages. This range, the river Ural flowing southward from its southern flank, the Caspian Sea, and the lofty narrow chain of the Caucasus are the borders common to Europe and Asia.

When it is observed that the most northerly parts of Eurasia are within the Arctic Circle, while the most southerly nearly reach the equator, it is evident that every variety of climate is to be found in different parts of this vast tract. With the climate of Southern Asia we have become somewhat familiar during our journey from the Red Sea over India to Singapore, in our survey of the British Empire. It was there shown that in summer its heated soil sucks in cooler air from the southern hemisphere, whereas in winter the chilled air of Asia blows southward. Of the intense cold which prevails along the northern coasts of Eurasia, save during the long days of its short three months' summer, we of the British Isles have happily no personal knowledge. In our brief survey of Lower Canada and North-West Territory we found a like state of things. The farther eastward we go from Britain over Eurasia, the more extreme becomes the climate. Untempered by sea-breezes, the heat of summer and the frost of winter work with unabated force on its great northern plains

and central tablelands. Even on the borders of the Pacific we find no genial current of warm water like our Gulf Stream flowing north-westward from the equator to lap the shores of the Corea and Kamtchatka. Along the eastern shores of Asia, as along those of North America, an icy current from the Arctic Ocean spreads a chill over the bleak coast.

CHAPTER III.

AFRICA.

FAR otherwise, both in shape and climate, is the great tropical continent, Africa. Its northernmost point is but 37 degrees north of the equator, its southernmost is less than 35 degrees south of it. Thus the equator runs across its middle ; and, save on the snowy summits of a few of its highest mountain peaks, and elsewhere just before sunrise, frost is well-nigh a stranger to the whole of its area, which exceeds 11 million square miles.

Africa contains somewhat more than a fifth part of the whole 52 million square miles of land on the surface of the earth. From north to south it stretches over 72 degrees, that is, about 5000 miles. From east to west, from Cape Guardafui, the corner of the wedge thrust out eastward into the Arabian Sea, to Cape Verde, jutting out westward into the Atlantic, is a distance of about 4600 miles. By multiplying these two numbers together we get, as might be expected, a number which represents about twice the area of this pear-shaped continent, this triangle with rounded corners.

The continent consists of high tableland sloping northward to the central lowlands, which are hemmed in east and west by the lofty plateaux of Abyssinia and Senegambia. The lowlands also slope northward

till they are suddenly walled in by the lofty Atlas range and the tableland of Barca, which seem to belong to Southern Europe rather than to Africa. The southern tableland is fringed by high mountains, which descend by terraces to the low-lying coast-lands.

From its extreme south to some degrees north of the equator, the vast tableland of Africa somewhat reminds one of the Deccan or south of India. The slope, however, of the South African plateau is not toward the north-east, but toward the north-west, so that its mountain fringe along the east coast is loftier than that along the west coast.

Having some part of its surface always beneath the vertical rays of the sun, Africa draws in cold air from both north and south to replace the air ever rising from its heated soil. Hence we should expect to find a north wind always setting toward the northern, and a south wind toward the southern parts of the tract lying under the sun. But the air lying upon the Mediterranean Sea is carried along with the rolling earth less quickly than seas or lands near the equator, which have a longer journey to make in the same time. Hence the air drawn southward toward the equator strikes against land travelling eastward faster than itself. Thus, instead of blowing straight from the north, the wind setting toward the equator has a south-westerly course—in other words, blows from the north-east.

In the same way, it is clear that wind setting toward the equator from the south has a north-westerly course given to it by the quicker spinning of equatorial lands. Hence in the north of Africa the prevailing wind is north-east, in the south it is south-

east. These, as we have seen, are the trade-winds of the Atlantic.

1. *South Africa.*

The southern apex of this triangle has been already described in our account of the South African settlements of the British. It is about 700 miles broad, and ends in three parallel mountain ridges, parted by terraces and cleft by gorges. The highest and northernmost of the three mountain ranges, 10,000 feet high, forms a fringe to the central tableland. On the flat, usually parched, terraces called karroos, we noted the quick up-growth of lovely flowers after rainfall. We noted also the flat-topped Table Mountain. This striking feature is common to many African ranges, because they are mostly of granite, topped by beds of sandstone.

Embedded in these British possessions is an independent republic called the Orange Free State, inhabited by Dutch Boers or peasant farmers, who formerly dwelt in Cape Colony. Disliking British rule and interference in their way of treating the natives, they took their goods north-eastward to this high tableland.

The whole area of the State is about the same as that of Ireland and Wales together, and consists of undulating pastures some 4000 feet above the sea. Lying from 27 to 31 day-rings south of the equator, and so high above the sea, it has a very agreeable climate. The Drakenberg range, towering on its south-eastern border, taps the rain-clouds driven against its sides by the south-easterly winds from the Indian Ocean. Hence the Boers enjoy dry summers, varied by occasional thunder-

showers. In July, when the sun is away in the north, parching the Sahara with its vertical rays, the height of this land above the sea secures for its denizens cool weather. The Boers have to send all their wool to market in oxen-drawn, canvas-covered waggons, through kloofs in the Drakenberg range, and across Natal, to the sea-coast; for the Vaal and Orange Rivers, which form their northern and western borders, have beds too rocky to admit of being used for the transport of goods.

North of the Orange River, and west of the Transvaal territory, stretches the rainless, and therefore riverless, Kalahari desert, haunted by herds of antelopes and quaggas. These animals form the food of the wily Bushmen, who lie in wait for their prey with bow and poisoned arrows behind tufts of coarse grass, or bushes high enough to screen their short thin wiry frames. These lowest of African savages, like the natives of Australia, roam the desert houseless and homeless. The scanty vegetation of this desert is mainly supplied by bulbous roots, which lie deeply buried in the sand, and are able to store up such scant moisture as reaches them from time to time during occasional thunderstorms.

West of this desert, to the shores of the Atlantic, stretch the dreary tracts known as Namaqua and Damara Lands. Along the whole coast, for 900 miles north of the Orange River, not a brook flows into the sea from the dry terraces. Inland, too, are no rivers, but only a few water-courses, filled from time to time by thunder rains. The scanty population of these wastes consists of blacks of mixed race, who are able, in hollows here and there, to rear a few cattle, and to

eke out a precarious livelihood by hunting the ostrich. Some of these great birds the natives succeed in taming and using as steeds to bear them swiftly over the sandy wastes. On the north-east of the desert, Lake Ngami, in the dry season only 50 miles long and 6 broad, in the rains overflows into a series of lower lying salt-pans, under the western slopes of the Matopo Mountains, and has no outlet to the ocean.

2. *The Mozambique.—Lake Nyassa.*

North of the Kalahari desert we enter tropical or Equatorial Africa, where rain is abundant. Here, then, once more we reach river-courses. Towards the west coast, north of a tract inhabited by the negroes called Ovampos, the river Nourse or Cunene drains a large tract but half-explored. Its bed is narrow, its stream shallow, and teeming with crocodiles. To the Portuguese, who occupy the flat sea-board at the base of the hills on each side of its mouth, it is useless for navigation.

On the eastern coast the river Limpopo or Crocodile, forming the northern boundary of the tropical districts of the Transvaal, flows southward through Portuguese territory to the north of Delagoa Bay. With a course of 900 miles, this river is too shallow to admit even small vessels for more than 60 miles from its mouth, which, moreover, is blocked by sandbanks.

The Portuguese claim an ill-defined strip of country called the Mozambique, stretching along the east coast northward from the 26th parallel (S.) for 1400 miles,

as far as Cape Delgado, near the 10th parallel. Here and there on this long sea-board they have stations or forts, guarded by convicts as soldiers. Through the middle of it the great river Zambesi brings to the Indian Ocean the drainage of the interior from as far west as the 18th east noon-ring, and from as far north as the 11th south day-ring. Its whole basin has more than six times the area of Great Britain.

Between the Limpopo and the Zambesi, the Kath-lamba Mountains sink to a lawn-clad tableland, which grows good wheat and other crops.

The owners of the country between this great river and the Transvaal are three Kafir tribes; near the coast, warlike Zulus; farther inland, Matabele; and still farther west, Makololo. The two latter tribes are Bechuanas, an industrious and intelligent race found chiefly on the high tableland of Southern Africa.

Even on the level strip lying at the foot of the lofty Lobombo ranges, Portuguese power is confined to scattered trading-stations.

Throughout the basin of the Zambesi are signs of the mischief wrought by the accursed slave-trade, which the Portuguese were the last European nation to give up. The price they gave for slaves led the inland tribes to attack one another in order to carry off men, women, and children, who were then shipped down the river in boat-loads. The result was that from many districts the natives were so scared away, that the Portuguese, having none to work for them, had to abandon some of their settlements in these parts. Many once thriving towns and villages are now in ruins. The whites were first tempted to settle here

by nuggets and grains of gold found in the beds of the streams.

Quite lately, British missionaries have established themselves on the southern shore of Lake Nyassa. Their station is called Livingstonia, after the great Scotch missionary traveller, who with unwearied zeal underwent lifelong danger, sickness, and privation, to open up the country.

Another station, named Blantyre, has been started among the hills between the river Shiré and Lake Shirwa, whose waters have no outlet. Yet more recently, Scotch merchants have placed a steamer on Luabo, the southernmost channel of the delta of the Zambesi. This steamer plies as far as the rapids of the Shiré. By means of good roads from these rapids to the upper waters, which are navigable, it is hoped that regular trade may be kept up between the Indian Ocean and the interior.

All this part of Africa is well watered and very fertile. Though the days of gold and ivory are past, the country supplies gum copal, ground nuts, abundance of coffee growing wild, grapes, indigo, sugar-cane, rice, bananas, yams, and bee's-wax. The enormous quantity of wild deer, elephants, zebras, buffaloes, giraffes, and wild pigs, shows that there must be boundless pasture and plenty of wood in the basin of the Zambesi. Beyond the dank, fever-haunted coast strip, the highlands offer a pleasant and healthy climate, with park-like scenery.

The great Lake Nyassa lies in a deep hollow or trench, 300 miles in length, and from 20 to 60 in breadth. From its eastern shores the Livingstone

Mountains rise straight up to a height of nearly 12,000 feet. Making its way southward from the lake, the Shiré throws itself over a ledge to form the Murchison Falls. During its course of 100 miles from these falls to the Zambesi, the Shiré is a navigable stream.

3. *Zambesi.—Angola.*

The Zambesi is the largest river of Eastern Africa. Its basin is parted on the north from that of the westward flowing Congo by the long range of the Mushinga Mountains, which stretch along the 12th south day-ring from the 33d to the 23d east noon-ring. The northernmost source yet known of the Zambesi, or, as it is called near its source, the Leeba, is Lake Dilolo, near the intersection of the 21st east noon-ring and the 12th south day-ring. Receiving a large feeder, named Leeambye, from the Mushinga range, the great river flows southward through the fertile Barotse valley. Bending eastward as it crosses the 26th noon-ring, after receiving from the west a deep feeder, the Chobe, the mighty river, here more than half a mile broad, is hemmed in by a range running north and south athwart its course. It is thereby forced to hurl its mass of waters over a ledge 100 feet high, into a cleft only 25 yards wide, amid black rocks 350 feet high. These grand falls, broader and higher than the famous falls of Niagara, Livingstone named the Victoria, after our Queen. The dense cloud of spray, rising like smoke 300 feet over the falls, may be seen, and the roar heard, ten miles away.

Issuing from this zig-zag gorge, the Zambesi hurries

its swift stream to the north-east for nearly 300 miles, after which its course is due eastward for about the same distance. In this part of its course it receives some large feeders from the fertile country on both banks. After issuing from the Lupata gorge, and thus descending from the tableland to the coast-land, the Zambesi offers 260 miles of navigable stream from the Portuguese settlement of Tete to the sea. Tete stands in a large coal-field, in which are found iron, and near at hand also gold. Receiving the waters of Lake Nyassa by the Shiré, the Zambesi forms a delta as large as Scotland, and enters the Indian Ocean by many channels, some of which are at times choked with rank growth.

West of the great basin of the Zambesi, the Portuguese province of Angola stretches along the west coast from beyond the 18th to the 5th day-ring (S.). It is a strip about 100 miles in width, lying between the Atlantic and the fringe of the central plateau, and watered by many short streams.

The river Kwanza, flowing north-westward along this plateau, tumbles seaward near the 10th day-ring, and offers 150 miles of navigable stream.

The slave-trade was carried on in this part of West Africa till within a few years. The curse of it still clings to this splendid country, which under good government, with good roads, and other blessings, would maintain in comfort a large population. Many of its inhabitants are now mere savages, who live by hunting the vast herds of zebras, antelopes, and buffaloes which roam over the country. The coffee tree grows wild here, as in the valley of the Zambesi. Palm-oil and gum

copal are plentiful. Copper and iron are among the products of this district. The latter metal has been long worked by the natives with great skill, though it used to be thought that uncivilised tribes could not work in iron. Along the roadside pine-apples grow as freely as turnips in England. The capital of the colony, St. Paul de Loanda, is a well-built town, standing on a fine bay.

4. *The Congo.*

In the north of Angola is the mouth of the greatest of all African rivers, the Zaire or Congo, whose course has only quite recently been made known. The most remote source of this river is where the 34th east noon-ring crosses the 10th south day-ring, a little westward of the north of Lake Nyassa. Flowing to the south-west, the stream enters Lake Bangweolo on the north of the Mushinga range. In Ilála, on the south of this vast lake, the great and good traveller, David Livingstone, died in 1873, worn out by years of hardship cheerfully undergone for the good of his fellow-men. Out of the north-western corner of this lake, which lies nearly three-fourths of a mile above the sea-level, flows the river Luapula, bearing northward for 100 miles to Lake Moero. From the north of this lake the Luvwa flows 200 miles northward to Lake Lanji, about 150 miles to the west of the great lake Tanganyika. Before entering Lanji, the Luvwa receives from the south-west a large feeder, called the Lualaba, which drains a chain of lakes along the 25th noon-ring, and has its headwaters in the Mushinga range.

Under the name of the Lualaba, the overflow from Lanji takes a northerly course along the 25th noon-ring towards the equator. Having received many large feeders from the south-west, the main stream now hurls its swollen waters down one ledge after another, thus forming a succession of cataracts known as the Stanley Falls. After crossing the equator, the great river curves to the north-west. In this part of its course it receives on its right bank a tributary of a mile in width, which shows that the unexplored area of its northern basin must be very extensive. Below the Stanley Falls, the Congo is of great breadth, varying from one to eight miles. What a grand highway this will be when the curse of slavery is at length removed from its banks, and peaceful traders send their traffic up and down and across this mighty stream ! Of all the rivers on the earth, the mighty Amazon alone surpasses the Congo in extent and in richness of vegetation. Part of its great basin is occupied by tribes which look upon strangers as meat to be eaten. Other Africans eat those whom they slay in fight, hoping thereby to acquire the courage of their dead foes ; but these savages eat their fellow-men from sheer love of human flesh. Their horrible taste adds greatly to the difficulty of dealing with this part of Africa.

Recrossing the equator, the Congo rolls its great volume to the Atlantic with a south-westerly bearing. During the whole course of the 1400 miles which the Congo traverses between the Stanley Falls and the western coast range, it receives feeders of large size on both banks, but more especially from the south. On reaching the coast range, the Congo, hemmed by heights

on both banks, passes through them for some 40 miles by a succession of falls and rapids, which, as in the case of all other African rivers of which we have hitherto treated, bar all direct access from the ocean into the heart of the continent. For 140 miles below these impassable rapids, the Congo offers an estuary 10 miles in width. The day may come when good roads along the 40 miles of rapids will enable goods to be conveyed from ocean ships to river craft.

The flood of water poured into the Atlantic by the Congo is such that a bucket let down from a ship's side many miles from its mouth will bring up from the surface fresh water. Its depth at the mouth is 1000 feet. Only one other river pours into the sea a larger volume of water, the South American Amazon. Even the great river of China, the Yang-tse-Kiang, fails to match the Congo.

The most remarkable thing connected with the enormous basin which this mighty river drains is, that till quite lately no traveller had been able to find any outlet for the waters of Lake Tanganyika. In 1879, however, its waters were observed to be overflowing from about the middle of its western shores by the Lukuga, which a former traveller had suspected to be its overflow channel.

Hence it would seem that this lake in some seasons receives enough water to send an overflow into the basin of the Congo, whereas in others it receives no more water than suffices to supply the waste from the rapid evaporation caused by a tropical sun. Some day, when Africa is opened up to traders, a canal may be cut across the 20 miles of low portage between the waters

of the Congo and the Zambesi, and thus open a water-way across Africa from the Indian Ocean to the Atlantic. It is thought that in the rainy season even now their waters mingle in one sheet. It may well be, too, that a canal may be cut between the basins of the Congo and the Nile.

5. *The Gaboon.—Loango.*

Along the west coast, between the mouths of the Niger and the Congo, the mountain fringe lies very close to the sea. Over the north-east corner of the Bight of Biafra, the lofty Cameroons raise their volcanic peaks to a height of 13,760 feet. These are confronted seaward by the conical peak of the Spanish island of Fernando Po. This peak, towering upwards of 10,000 feet, and wooded from head to foot, makes the harbour of Clarence Cove the most striking and beautiful sight on the coast of Africa.

Similar volcanic peaks, Mounts Atlantika and Mendif, tower farther inland to the north-east, in a line with the former peak, one on either side of the river Binue, and of the 10th day-ring (N.). A straight line drawn south-westward from these peaks to Fernando Po passes over three other volcanic islands about 150 miles apart, and if continued 1200 miles farther, reaches the island of St. Helena.

On either side of the equator the coast-range, under the name of the Crystal Mountains, rises close to the seashore, and is covered with dense forests, frequented by leopards, gorillas, and other large apes. About Corisco Bay the Spaniards have stations. On the river Gaboon,

which, though it looks so trifling on our largest maps, offers an inlet ten miles wide, the French hold sway. Inland live the Fans, one of the most vigorous of the negro tribes. They are skilful enough smiths to forge their own spear and arrow-heads, and had once a bad name for eating human flesh, from a liking for its flavour. It is believed that some Fan tribes still eat the bodies of enemies slain in battle, in the hope of redoubling their own courage and vigour.

Southward we reach the fever-haunted mangrove swamps of the Ogowai delta. This river allows French and British ships to penetrate some 70 miles into the interior. Thence southward, as far as the mouth of the Congo, stretches a thickly-peopled belt, abounding in oil palms, gum trees, coffee and cotton shrubs. Besides these valuable crops, the natives of Loango are able to sell to traders copper and ivory.

The Sierra Camphida, running north and south, about 100 miles from the coast, offers a barrier to the mighty Congo, which passes through it by a series of cataracts. These, of course, destroy its usefulness as an entrance into the heart of Africa from the Atlantic. The Congo marks the boundary between the southern limit of the moist forest-land and the northern limit of the drier regions of Southern Africa.

6. Zanzibar.—Lake Tanganyika.

Northward from Cape Delgado a narrow belt along the east coast of Africa is governed by Arabs, and tenanted by a mixed race called Swahili. Their Sultan,

that is, the mighty man or sovereign, lives on the island of Zanzibar (on the 6th south day-ring, and 39th east noon-ring), which till quite lately was a crowded slave-mart. The Arabs are the great traders of East Africa, and have a settlement, called Nyangwé, quite 1000 miles west of Zanzibar on the banks of the Lualaba. They reach this station by crossing Lake Tanganyika in boats. As the deadly tsetse-fly haunts all this tract, goods are carried to and fro by porters. This makes traffic very slow and costly. As money is unknown, all trade is carried on by barter or direct exchange of goods.

To the island of Zanzibar, during our winter months, the north-east monsoons waft across the Indian Ocean Arabian and Indian trading-vessels to traffic in ivory, cotton, hides, and spices.

The Arabs' power, like that of the Portuguese farther south, is confined to the coast belt, and in some parts even to the mere forts held by their troops.

All along this coast many streams flow to the sea from the steep eastern escarpment of the central table-land. A little south of the equator, some 250 miles inland, there tower up from this plateau two snow-capped peaks, Kenia and Kilima-njaro, the former 18,000 feet, the latter 18,705. The downright rays of the sun in July and September fail to melt the snows on their summits. Their eastern slopes send down rivers direct to the Indian Ocean; their western to the great lake Victoria Nyanza.

This lake, which has nearly as large an area as Lake Superior or Ireland, is the main reservoir and gathering-basin of the river Nile. It lies 3800 feet above the sea-level.

massive central bowl. These arms are propped by limbs resting on the ground. Around these giants the grass rises higher than our tallest rye crops, so high, indeed, as often to hide from the wayfarer's view the beauties of the country through which he is passing.

Then, again, the footpath plunges into dark mud-floored tunnels, overarched by dense foliage. Here is the plunderer's best chance of robbing the slipping, struggling, entangled porters, not too unwilling to be relieved of their loads, so long as they are not themselves harmed by the robbers.

Lake Tanganyika lies as though in a deep trough, being encircled by grand cliffs, which in places rise sheer from the water to a height of 7000 feet. These red cliffs, contrasting with the green forests and the blue water, form a very striking scene. The lake abounds with islands, floating masses of weeds, crocodiles, and hippopotami.

7. Native Huts and Ways.

On their journeys the Arabs usually carry tents, which they pitch whenever they wish to make a stay. The native huts are not so good as a well-built English cow-house, nor even as what in some counties is called a hovel. Most of them are shaped like a hay-cock or a beehive; but in every village there are a few huts larger and better than the others. These are built of reeds or bark propped against strong uprights, and bound by split bamboos tied with fibre. The roof, thatched with grass and reeds, projects a long way over the front wall,

so as to make a covered out-door sitting-place. Here is ranged a row of logs. On these the natives love to sit all the day smoking and chattering. The inside of their huts harbour hens, pigeons, rats, mice, snakes, lizards, crickets, beetles, and huge hairy spiders. Not seldom huts take fire, as they have no fire-grates. The smoke has to find its way out by the door, and harms the eyes of those who sit long in-doors. Sometimes a swarm of bees makes itself at home within a hut. The African bee, when enraged, is as deadly as the Indian, and is not the least of the many plagues of African travel. In many parts of Africa bees are duly hived and kept for their honey.

In wet and windy weather, or during the heavy thunderstorms which rage so often in the tropics, the natives take refuge in the dark recesses of their wretched hovels and huts. Their inner chambers are parted by walls made of grass-stalks, and furnished with a rough bedstead, smaller than our child's cot, with black pots, gourds, coco-nut ladles, nets, spears, dirty clothes, and a huge wooden mortar for crushing grain. When they would close the entrance at night, to keep out prowling thieves or beasts, they put a hurdle of straw or bark against the doorway.

Some villages are fenced round with palings for safety against attacks by more warlike tribes. The only doorway to the enclosure is approached by a narrow alley, carefully fenced, so that spears can be thrust through the palings from both sides when an enemy advances up the alley. Sometimes 'crows' nests' overhang the doorway. Seated in these the defenders thrust spears or throw down stones from above at any intruders.

Elsewhere huts are built on piles standing six feet above the surface of lakes. Boats are kept among the piles below the huts, to enable the natives to go ashore for food. These boats or canoes are 'dug-outs,' that is, made from a single tree-log hollowed out. In these huts are sheltered not only their families, but even their goats and fowls, such is their fear of being robbed by other tribes.

Of the people who live in these parts travellers speak very ill. They find them thievish, treacherous, and altogether untrustworthy. Their chief thought from morning to night is food and drink. Sitting up late at night, they amuse themselves by unseemly dances and revelry. In a land where, owing to moist heat, food is easily raised, where an acre of bananas or plantains, grown with no skill and little toil, supplies more food than a hundred acres of wheat, there is no need to work hard for a living.

In the low-lying parts, owing to the swampiness of the soil during the heavy tropical rains, rice is easily raised. This grain, eked out by coco-nuts, is the main food of many tribes in the coast district. In the hill country, where the coco-palm is replaced by stately forest trees, spreading out their umbrella tops wide enough to shelter a whole regiment, other grains, as maize and dhurra, are readily raised, and many fruits grow wild.

The belief, nay, often the certainty, that some neighbouring tribe will rob them if they work to get more than enough for their daily wants, helps to keep the natives lazy. Hence they live and die merry chatters, without a thought for the morrow or the hereafter, quite happy if every bodily want be satisfied, and

dreading only to be carried off as slaves and forced to work. If a man wants means, his first thought is to sell as slaves his own sister's children.

Of clothing, having little need, they wear very little, and that mostly very coarse, and often home-made, of leaf, or bark-fibre, or grass. They are fond of music, though not such as pleases our ear. They have rude drums, flutes, and harps.

Having no regard for time, the negroes are very leisurely in bargaining. They will chaffer for days where we should settle matters in a few minutes, and show much low cunning and lack of fairness in all their dealings. They usually begin by asking ten times what they are prepared to take rather than not sell.

8. *The Sudan.—The Niger.—Lake Chad.*

We come now to the southern part of the African lowlands, kept moist by the drainage from the northern edge of the central tableland. The name Sudan has been in use for the last thousand years to denote the tract sometimes called Nigritia, or the land of the blacks,—the vast and little known plains of Central Africa south of the Sahara or Great Desert.

On the western sea-board of this district we had occasion, in our *Glimpses of the British Empire*, to name British settlements scattered here and there, partly for trading purposes, and partly for the suppression of the slave-trade.

The greatest river-basin which here claims our attention is that of the Niger. Of the large tract between its

basin and that of the Congo nothing more is known than that it is drained by the river Ogowai and its main feeder, the Oganda. Ships have sailed only about seventy miles above the large delta of this river. The river is there a mile broad. Above this its bed is hindered by rocks, which bar the way to sea-going vessels. The delta of the Ogowai, extending on both sides of the equator, includes many channels, bearing names as of separate rivers.

The river which gathers up the waters of the eastern parts of the Niger watershed is the Binue. British trading steamers ply up the Niger above the confluence of this great river.

From time to time traders and travellers have ventured for hundreds of miles up the Binue, but owing to the jealousy of the tribes which line its banks, regular intercourse, being unsafe, is not attempted.

On the death of a chief in these parts, it is said that the course of a stream was turned, and a large pit dug in the dry bed. This pit was then lined with from forty to fifty live women. The chief's corpse was laid on the backs of two of them, and the pit was then refilled with soil. Forty or fifty male slaves then had their throats cut over the fresh soil, and the stream was then turned on its bed once more.

The head waters of the Quorra, Joliba, or Niger, are on the northern slopes of the Kong Mountains, a range which runs nearly parallel to the west part of the Guinea coast, at an average distance of 300 miles inland. Of this low-lying and fever-haunted strip we have already caught glimpses in our visits to the British settlements of the Gambia and Sierra Leone.

In the healthy upper valley of the great river to the north of these mountains lies the negro kingdom of Bambarra, having for capital a square walled town, named Sego. This city is not, like many African villages, a collection of hay-cock or beehive huts, but consists of flat-roofed, two-storeyed houses built along the river-banks. To the town of Sansandig, a little lower down the river, caravans bring goods of European make across the Great Desert from Marocco — a journey of 1200 miles, fraught with many perils and privations.

From Bambarra the Niger winds northward through Massina, a fertile country, peopled by tribes called Hausas, who own the basin of the Niger as far eastward as the northern springs of the Binue. Their best known town is Timbuktu, the central mart of the traffic across the desert. The Hausa States profess the Mohammedan religion.

At the invitation of many native chiefs, a party of British explorers availed themselves of the dry months, November to February, to visit Timbuktu in the winter of 1880-81. It is hoped that this visit may open up this part of Africa to British traders. After the Nile the Niger offers the readiest entrance to inner Africa.

The delta of the Niger is as large as Ireland, stretching from Old Calabar westward to the Binue over three noon-rings. Lying north of the equator, the Niger is flooded during the summer months. In July and August the valley is a lake dotted with boats.

At the noon-ring of Greenwich, about 200 miles east of Timbuktu, the Niger, bending round, makes for the sea with a south-easterly course of 1000 miles,

as measured by a straight line. More than 400 miles from its mouth, on the 5th east noon-ring, stands the town of Rabba. This and Egga, 100 miles lower down the river, are visited by British trading steamers.

To the east of the great basin of the Niger lies the basin of Lake Chad, fed from the south by the river Shari. In the dry season this lake is about the size of Lake Erie, having an area of some 10,000 square miles, or a square of which each side is 100 miles. The swampy thickets with which it is begirt swarm with herds of snorting river-horses and flocks of water-fowl. Its waters teem with crocodiles and the shoals of fish on which they feed. In the rainy season it spreads to a great inland sea, and sends its overflow down to lower flats. When the rains are over, the surface-water is soon carried off by the dry wind of the desert.

In the basin of Lake Chad lie the kingdoms of Bornu on the western and Baghirmi on the south-eastern slope. The former is said to be one of the most beautiful and fertile, as well as one of the best governed, lands in Africa. Its chief town, Kuka, is a great mart, but, alas! among its chief wares are slaves. Besides its traffic in human beings, the market at Kuka is well stocked with all kinds of horses, camels, cattle, and poultry.

The eastern slope of this inland basin is inhabited by negro tribes far behind those of Bornu in their modes of life. The warlike tribes of Wadai have lately conquered the tribes of Baghirmi. Farther east the province of Dar Fur now forms part of the domains of Egypt.

9. *Senegambia.—Liberia.—Ashantee.—Dahomey.*

Senegambia is the name given to the tableland on the west coast, south of the river Senegal, as far as Sierra Leone. It is the western horn of the African tableland, and, like Abyssinia on the east, projects far into the northern lowlands. The middle of the district is drained by the Gambia and the Rio Grande, each twice as long as our Thames, but hindered by rapids. Though its trade is almost entirely French, the river Gambia is in the hands of our own Government, as represented at Sierra Leone. The left bank of the Senegal, on the other hand, whose trade is almost wholly British, and which is 850 miles long, is in the hands of the French, who rule it from St. Louis at the mouth of the river, and have a fortress farther south, on the Isle of Gorée, off Cape Verde. The French have other stations here and there along the coast, as have also the Portuguese. The natives are negroes. The trade is chiefly in palm-oil, from which most of our soap is made, and which is used also for greasing the axles of railway cars. Wax, gum, and ground-nuts, from which oil is got, ginger, pepper, rice, arrowroot, coffee, and cotton, are also grown here and exported to Europe. The group of volcanic islands in the Atlantic, some 400 miles off Cape Verde, and the mouth of the Senegal, belongs to the Portuguese, and supplies harbours of refuge and coaling-stations for steamers.

South of Senegambia, the negro republic of Liberia stretches for 400 miles along the Grain Coast. It bears this name from the grains of a pepper which here grows wild. Liberia, or the land of the free, was the name

given to this settlement early in this century by citizens of the United States, who sent hither a colony of freed slaves to enjoy their freedom in the land from which they or their parents had been originally stolen. From this coast come the sturdy Kroomen, who are much employed as seamen in tropical seas.

The exports of Liberia are much the same as those of Senegambia, with the addition of logwood, ebony, copal, sugar, cacao, and copper.

Between Liberia and the Gold Coast, which has been already described as one of the British settlements, the country is almost unknown to Europeans. Inland, between the Gold Coast and the mountains, the warlike negro Ashantees live, in a country covered with thick bush or jungle. Into their dense forests British troops marched in 1872 to destroy the capital, Coomassie.

East of the Ashantees is the kingdom of Dahomey, noted for the cruel 'customs' which lead to cold-blooded butcheries of his subjects by their king. The despot lives in state at his capital, Abomey, a walled town guarded by women soldiers. Eastward of Dahomey is the Yariba country, a tableland so high above the sea that Englishmen can dwell there without loss of health.

10. *The Gallas.—Somali Land.—Abyssinia.*

North of the snow-capped Kenia and the equator spreads for 900 miles north and south the country of the Gallas, a brown-skinned, shapely race of great intelligence. Their eastern boundary is the river Juba.

The wedge-shaped tableland, whose rugged cliffs

frown upon the Gulf of Aden, is tenanted by a handsome-featured people called Somali. Over their grassy prairies roam troops of gazelles, zebras, antelopes, giraffes, ostriches, and elephants. The Somali tend herds of camels, ponies, cows, and sheep. Into neither of these countries have Europeans yet made their way.

Having now gone round the eastern edge of the upper basin of the Nile, we reach the mountainous region which contributes its largest feeders, the Blue Nile and the Atbara. Abyssinia or Æthiopia is, as it were, a great promontory, 700 miles wide, thrust 300 miles northward from the tableland into the northern lowlands. The whole drainage of Abyssinia is westward. To the Red Sea it presents an unbroken wall, rising steeply to a level height of 8000 feet. In the south its loftiest plain towers 2000 feet above the snow-line at a height of 15,160 feet. The western edge of the plateau presents to the plains a wall from 3000 to 4000 feet high. Hence it is clear that the table is very much tilted on one side. The flat-topped mountains common in Africa give great sameness to the surface of the country.

The Blue Nile issues from Lake Dembea, a sheet of water forty miles across, in the heart of a knot of mountains more than 6000 feet above the sea.

Having thus a series of tablelands of varying heights within the tropics, Abyssinia, with an area about as large as France, has great variety of climate. Its highest pastures are cool enough for sheep, goats, and oxen; its middle heights grow corn and fruit; while its lower lands (3000 to 5000 feet) grow cotton, indigo, sugar, coffee, bananas, ebony, and a tree peculiar to Africa, the baobab.

This tree, like the mangrove, which makes dense thickets in tropical swamps, has the power of sending down branches earthward, which root themselves in the soil, and thus enable the giant tree to spread its thick shade over acres of ground. It is among trees what the uncouth, ungainly hippopotamus is among beasts. Its smallest twig is two or three inches round ; its whole form grotesque and ungraceful. Still its white flowers, and the tender green of its young leaves, refresh the eye.

In the more central parts of Africa the rainy season follows the apparent course of the sun, north and south of the equator. Those parts of the land which have the sun directly overhead, having more heat-rays, cause the heated air to mount rapidly, and thus suck in to replace it moisture-laden air from the surrounding ocean. Hence in June, when Northern Africa has been greatly heated by the vertical rays of the sun, begins the rainy season of the basins of the Niger and the Nile. In December, on the other hand, begins the rainy season in the basins of the Zambesi and Kwanza. The rainy season of the Congo, much of whose basin is on the equator, falls between the other two.

In Abyssinia, however, it is otherwise. In the lower ground the rains last from April to September,—beginning, that is, when the sun is overhead, and lasting while it continues vertical to parts north of the equator. This is as elsewhere in Africa. But on the higher ground of Abyssinia the wet season begins in July and lasts till October. To the south of the country January brings a second rainy season.

The natives of this country are of Arab blood, and in the north are not darker than southern Europeans.

They profess Christianity, but in such guise as to seem something far other than what Europeans understand by that religion. Under settled government the country would be very productive. As things are, the natives will not till the ground, lest all their pains should be wasted, owing to the fighting and robbery of which they live in constant dread. The only Abyssinian town with whose name it is worth while to burden the memory is Gondar, on the southern slope of the mountains which encircle Lake Dembea on the north. There are the ruins of a towered palace, built for the kings of Ethiopia.

In 1868 the British stormed the hill fortress of Magdála (at the intersection of the 39th noon-ring and the 12th north day-ring), to rescue some British subjects kept there in prison by the king.

Recent encroachments along the sea-board by the ruler of Egypt have cut off the Abyssinians from all access to the sea. Thus the country has no seaport of its own as an outlet for its spare produce. Caravans, however, carry to the Egyptian port of Massowah, on the Red Sea, Abyssinian wax, coffee, cotton, gums, and hides.

II. *The Nile.*

Though we have traversed both the east and the west of tropical Africa, we have left the main valley of the Nile hitherto intact, that it might be treated as a whole. With the exception of the Abyssinian highlands, and the highlands to their south-west, the whole basin of the Nile is now under the government of Egypt.

The great Lake Victoria Nyanza is the mother water of the Nile, which is now known to be the longest, though not by any means the largest, river on the earth.

The southernmost of the streams which flow northward to the Victoria Nyanza rise near the intersection of the 34th east noon-ring with the 5th south day-ring, about halfway between the north of Lake Tanganyika and the coast. Into the eastern shores of the lake flow streams fed by the eternal snows of Kilima-njaro and Kenia. Into its western shores flows the drainage of the eastern slopes of those highlands, whose western slopes are drained by the Lualaba into the Congo.

Somewhat north of the equator, the Victoria Nyanza hurls its vast overflow down a wall of rock 12 feet in height. The water at the bottom of these Ripon Falls is the baby Nile. After flowing north-westward for some 150 miles, the river bending westward forms the Kuruma and Murchison Falls, and is swollen by the overflow from Lake Albert Nyanza. This vast sheet of water, begirt by the lofty Ulegga Mountains, acts as a backwater to the great river which grazes its north-eastern edge. For the next 100 miles the river is navigable, as it winds northward to Lado, a military station facing Gondokoro, near the 5th north day-ring. It has there to force a passage for many miles through mountainous country by a succession of falls. After passing these, the river curves to the north-west, and again becomes navigable, as it winds through level marshy land, where its flow is much hindered by thickly matted weeds.

Many of the African rivers have these matted growths. Sometimes all but a yard of a river 100 feet broad is

covered with a bed of weed 3 feet thick, and strong enough to allow men to cross the river in safety. They feel like quaking bogs. These beds arise from rushes stopping soil washed down in floods. They usually grow larger and stronger for six years, and then in four more decay. To cross them in this state is highly unsafe.

The hippopotamus passes under these floating beds, which often hide from view almost the whole water. It was by the decay of such masses of weeds that beds of coal were formed where rivers have changed their courses.

A few miles short of the 10th day-ring, the Nile broadens into Lake No, into which the broad Bahr-el-Ghazal, the Nile's first great feeder, pours the drainage gathered from a tract of country on the west. Issuing from Lake No, the Nile winds eastward, skirting the southern slopes of the Shilook highlands, as far as where the Sobat brings westward the drainage of a knot of high hills lying on the south-west of Abyssinia.

For the next 500 miles, under the name of the White Nile, the river has a northerly course as far as the town of Khartum, north of the 15th day-ring. It is here joined by its great feeder, the Blue Nile, which drains the central and southern highlands of Abyssinia. Being the centre of much river traffic, and of many caravan routes, Khartum is a busy trading mart. The town of Senaar, more than 150 miles up the Blue Nile, is a great grain store. From this point northward, the Nile is hemmed in by hills on both sides. Near Berber, 200 miles north of Khartum, it receives by its last feeder, the Atbara, the drainage of the northern plateau of

Abyssinia. From Berber, a mere crowd of mud huts encircled with palm trees, caravans start for Suakin, a port on the Red Sea, fourteen days' march eastward. Henceforth through the Nubian desert the great river follows a winding and broken course. Owing to the heat of the sun, and the dryness of the air over the sandy desert, the Nile, receiving no feeder during its last 1200 miles, like the Australian Murray, gradually dwindles in volume.

In the Nubian desert, many rapids and cataracts hinder navigation. Boats can ascend from the river mouth as far as the second cataract, by being with great toil towed up the first cataract at Assuan. For larger vessels, this town marks the southernmost limit of the free navigation of the river from the Mediterranean Sea.

From Wadi Halfa, the second cataract, a railroad runs alongside the river as far as Dongola, on the 19th day-ring. This line has been constructed for the conveyance of goods from vessels stopping short at Wadi Halfa. Being reshipped at Dongola, the goods are carried by boat to an important trading centre, called El Dabbeh, on the south of the great southerly bend of the river in the Nubian desert. From this station caravans start for the western province of Dar Fur. This formerly independent negro state has lately been conquered by Egypt. From June till September, when the increased heat of the vertical sun sucks in rain-clouds from the Atlantic and Indian Oceans, the torrents of Dar Fur help to swell the waters of the Nile, and clothe the land with green pasture. At other times the beds of its streams lie dry, and the land being parched with drought, is barren.

The great interest of the Nile to mankind for thousands of years has lain in the yearly rise of its waters, on which depends the whole tillage of Egypt. The rise of the waters begins in June, and increases weekly till October. From that time forth the river dwindles, till in May it is at its lowest. In that month the towing of boats up the first cataract is very toilsome and difficult.

From what has been said elsewhere, it will be seen that this rising of the Nile is due to tropical rains. Most of the land from which the Nile draws its supplies lies north of the equator. On this tract the rains fall when the sun is overhead. Near the end of March Lake Victoria Nyanza has the sun overhead. Thenceforward, up to midsummer, the noontide rays become vertical to places farther down the stream. At midsummer, Assuan and the first cataract lie almost under the mid-day sun. From that day to the last week of September, noontide rays fall downright on the basin of the Upper Nile, farther and farther south every day. During the whole of this time, then, the moist winds sucked in from the Indian Ocean are pouring down torrents of rain on the feeding ground of the Nile. The lower part of the Nile is now much visited by English and other tourists, who steam or sail up the cataracts, rejoicing in the cloudless sky, the fresh north breeze, and the brilliancy of the stars in that dry air.

12. *Egypt.*

The land in olden times called Egypt is but a small part of the territory now ruled by the Khedive, as its

sovereign is styled. His dominions have already ten times the area of our island, and are being yearly enlarged. Already Egypt has stretched her power westward beyond the 25th noon-ring in the north, near the Mediterranean. South of that, the rainless Libyan desert forms a boundary which offers no temptation to encroachment. Along the western sea-board of the Red Sea, however, Egypt has been busily removing her neighbour Abyssinia's landmarks, or rather water-marks, and has now left her without a port. To Egypt now belongs the Asiatic peninsula of Sinai, cut off from Africa by the Suez Canal. Centuries ago, the children of Israel dwelling here in tents were beyond the reach of their Egyptian taskmasters.

Along the 10th day-ring Egyptian power stretches west and east from the 21st to the 45th east noon-ring. At this point, Berberah, on the southern shores of the Gulf of Aden, is the main outlet for the ivory, coffee, tobacco, and other produce of the great Somali country, which forms the easternmost horn of Africa.

Of this vast extent of country, the most interesting is Egypt proper, that is, the delta of the Nile and the narrow strips of fruitful soil lying along the banks of the Lower Nile, hemmed in by the rocky hills and sands of the Arabian desert on the east, and the Libyan on the west. The whole of Egypt proper has been made by the Nile bringing down soil during countless ages from the inner tableland and mountains in the heart of Africa. The same process is going on still. Year by year the delta is being pushed farther and farther northward into the Mediterranean.

The delta is now about as large as Wales. The land

along the banks below Assuan which can be tilled amounts in all to a still smaller area. Showers of rain fall now and again along the coast, which stretches 187 miles between Rosetta on the western, and Damietta on the eastern mouth of the delta. At Cairo, the capital, which is at its apex or head, there are from twelve to fourteen rainy days a year. Farther south rain is unknown, but heavy dews fall at night, and the dry heat is somewhat tempered by northerly breezes blowing up the valley. In Lower Egypt all tillage depends on the Nile, and the canals in which its waters are stored, and by which they are spread over the soil.

The middle land of modern Egypt, that is, Nubia, is rainless as far south as the inflow of the Atbara. Here begins the region of tropical rainfall, which increases in amount and duration from this point southward up to the source of the Nile. From this point, then, the eye of the voyager is gladdened by increasing luxuriance of vegetation the farther he journeys upstream. At the source of the Nile not a month passes without copious rainfall, save in January and February, when the sun is far south, over the basin of the Zambesi.

Over Lower Egypt wave rich crops of wheat, maize, rice, cotton, sugar-cane, and indigo. The pastures feed herds of cattle, asses, and sheep. On the hill-sides browse goats. In Fayum, a fertile district in the west, around a lake once known as Lake Moeris, among other crops are miles of roses, grown, as in Kashmir, for the costly perfume called attar.

In the desert beyond the fertile river-strip groves of graceful date-palms here and there break the dreary sameness and sultriness of the outlook.

In the upper or southern parts of the Nile, called the Egyptian Sudan, abound large beasts — in the river, hippopotami and crocodiles; in the jungle, rhinoceroses; on the grassy sward and among the great forest trees, elephants and giraffes. Among the most striking trees of the upper valley are the acacias, which clothe the hill-sides 'like umbrellas in a crowd.' Their branching heads are at times studded with white and yellow blossoms, and their stems, 15 feet thick, rising to a height of 140 feet, spread out a dark mass of shady branches at the top.

In these parts the grain grown is durra or millet, and the grasses are coarse and tall enough to hide an elephant.

13. *People and Towns.*

The peasantry of Lower Egypt, called Fellaheen, or ploughmen, are the offspring of the old Egyptian stock mated with Arabs. The unmixed offspring of the old Egyptians, called Copts, profess Christianity, and are employed mainly as clerks. The pure Arabs are chiefly Bedouins, a race of roving herdsmen dwelling in tents. Of all the varied races of mankind, the Arab in face and mien is the most stately. Of Arabian blood are most of the dwellers in Nubia and the northern parts of the Egyptian Sudan. Here and there live mixed races, half Arab, half negro; south of the 10th day-ring are jet-black negroes, as the Shilooks, and others about the great lakes.

The streets of the great cities of Lower Egypt, Alexandria, its great seaport, and Cairo, its capital, are

thronged with a motley crowd of Greeks, Italians, French, English, Armenians, and countless other peoples, engaged in the trade between Europe and Southern Asia, so much of which passes this way.

The streets of the large and densely-crowded city of Cairo are narrow lanes, so built to shut out the fierce rays of the sun, and thus allow shopkeepers to carry on their trade under shelter. The strangeness of every sight and sound in those streets is very striking to a European visitor. To one looking at Cairo from without, the many graceful cupolas and minarets rising above the sea of houses give an appearance of beauty and novelty.

From Cairo railways run north-westward to Alexandria, northward to Damietta on the eastern branch of the delta, and southward along the left bank of the Nile to Siut in Upper Egypt. At Port Said, somewhat east of Damietta, is the entrance to the famous Suez Canal, by which Asia and Africa have been severed, and a short waterway opened from the south of Europe to the south of Asia. About half-way between Port Said, the northern, and Suez, the southern opening of the canal, is the town of Ismailia, where live the officers whose duty is to levy tolls on passing ships, and to keep the 97 miles of canal in repair.

Not far south of Cairo are the famous pyramids of Gizeh and the ruins of Memphis. So many English travellers yearly visit these and other wondrous remains of ancient Egyptian greatness that we need not linger here to tell what has been told many thousand times.

From Keneh, on the 26th day-ring, caravans start

on a four days' journey eastward over the Arabian desert to Kosseir, a port on the Red Sea.

A few miles higher up the stream we reach the stately ruins of Thebes and Luxor, and marvel how many slaves toiled to lift those gigantic columns and beams to their places, with the aid of such rude machinery as was then known.

But our object is not to dwell upon things already well described by hundreds of eye-witnesses, but to take such a view of the surface of the earth as may enable us to know the whereabouts and general features of the various countries of the world. We must therefore quit this most interesting land, to complete our survey of the Dark Continent.

14. *The Sahara.*

Of the vast rainless desert spreading westward from Egypt and Nubia to the Atlantic, little need be said. The Sahara stretches southward from the shores of Barca and Tripoli, and the highlands of Barbary, for about 1200 miles. Nearly thirty such islands as Great Britain might be stowed in this vast desert of Northern Africa, which has about the same area as Australia, where is found the Sahara of the southern hemisphere.

The surface of the desert is not all sand-hills and plains, but abounds with tablelands covered here with stones, there with pebbles. Here and there below the level of the surrounding plains enough moisture is found to enable a few palms to grow. These oases are due to the scanty rain that falls on the southern slopes of the Barbary plateau and elsewhere, filtering underground

to the lowest level. Along the channel by which this drainage flows it is often possible, by digging deep, to find water.

At mid-day in midsummer the sand and rocks of the Sahara are nearly hot enough to boil water. At night the dry air allows the heat to escape so entirely that before daybreak water will sometimes freeze.

The indraught of moist air from the surrounding oceans, which so bountifully waters the central parts of Africa 20 degrees north and south of the equator, has barely a few drops to spare for the hilly ground in the centre of the Sahara.

The prevailing wind in the Sahara is north-easterly. Blowing from the dry land of Asia, this wind brings with it no moisture to bedew the barren wastes. From the Sahara hot winds blow over Egypt from April to June, over Algeria and Sicily in July, over Marocco to Spain in August and September.

The oases found here and there enable the Sahara to maintain a few scattered dwellers, chiefly Arabs and Berbers, in all some five millions. Their chief food is dates, for the palm on which dates grow is able to endure heat and drought. The date-groves shelter such herbage as tempts gazelles to browse, and lions and panthers to prey upon them. Rice, maize, and barley, grown in the hollows, help to support the native dwellers. Their camels, as they travel from place to place, find scanty food in some thick-leaved, thorny evergreen shrubs which grow in the dreariest parts.

When a camel lies down to die, specks are soon seen in the clear sky,—keen-eyed vultures descrying from afar their chance of a meal.

The caravan routes across the Great Desert run mostly north and south.

From the beautiful country of Bornu, on the west of Lake Chad, frequent caravans travel northward, near the 14th east noon-ring. Their course lies past the salt mines of Bilma, through Fezzan, by Murzuk to Tripoli, on the coast due south of Sicily. They carry northward gold dust, ostrich feathers, ivory, and slaves. It is believed that 10,000 slaves are driven along this route every year. Such are the hardships and consequent losses on the march, that the bleached bones of those who have died, and lie unburied on the route, are enough to save any traveller from losing his way.

On their return southward, the caravans convey to the Sudan goods made in Europe, as knives and other tools, cottons, buttons, and trinkets. From Bilma, on the 19th north day-ring, blocks of salt are carried southwards on the backs of camels.

Some 300 miles north-east of Bilma, Mount Tusidde, the highest peak in the Sahara, rises from a mountain knot to a height of nearly 8000 feet. As these heights at times attract rain, their green slopes and valleys then refresh the eye wearied with the yellow sameness all around. The streams that flow hence are soon lost in the surrounding sands.

The Tibbus, who live in these parts, are more akin to the southern negroes than to the Arabs dwelling all around.

West of the Murzuk route, another from Ghat, near the intersection of the 10th east noon-ring and the 25th day-ring, leads by the mountain knot of Air or Asben

to Sokoto, a town standing on a feeder of the Niger. The hill country of Asben attracts rain enough to supply with food the Tawareks,—the tribe which treacherously poisoned a party of French explorers.

Yet farther west are routes from Tunis, Algiers, and Marocco to Tidikelt, a tableland on the Greenwich noon-ring, some 27 degrees north of the equator. From Tidikelt, as also from Tafilet, on its north-west, caravans ply a busy trade with Timbuktu.

A sand-storm is the greatest danger which befalls travellers across the Sahara. The wind carries along such volumes of sand as to darken the whole air as though night had suddenly fallen, and to overwhelm camels and men with masses from which they are powerless to emerge. Apart from this supreme danger, the very dreariness of the sandy plains and billows, and the red glare of the air, are most distressing.

15. *The Barbary States.*

The tablelands and mountainous tracts stretching north of the Sahara from Egypt westward along the Mediterranean to the Atlantic are occupied by four States, bearing in common the above title. Both Greeks and Romans called people of other races barbarians, much as the Jews called all other races heathen, and as we still call uncivilised races savages. Hence probably the name of Berbers was attached to the race which has dwelt here for ages. The impression left on the Berbers by their Roman masters may be traced even now in their calling all Europeans Romans.

The easternmost of these states, Tripoli, or 'Three Cities' (so called from three ancient towns governed by Carthage upwards of 2000 years ago), has nearly four times the area of Great Britain. Being mostly stony desert, this area suffices to maintain only a million people, dwelling chiefly in the valleys on the outer or northern slopes of the hills. There alone is sufficient moisture found for the rearing of silkworms and the growth of cotton, tobacco, fruits, and corn. In the drier parts are groves of date-palms. Tripoli is a province of Turkey. The Turks draw their main supplies of slaves from the Sudan, across the Sahara, through Fezzan. A Turkish governor resides at Murzuk, an oasis city of Fezzan. At the ports of Benghazi, on the north-west coast of the plateau of Barca, and of Tripoli, many a negro takes his last view of his native land before being shipped off to the Levant.

On the north-west the coast-range of Tripoli sinks to the level of the sea. In the south of Tunis, which has about half the area of Great Britain, are marshes and quicksands below the sea-level, stretching westward for some 250 miles inland. Were the ten-mile barrier pierced which parts these hollows from the sea, a shallow lake would be formed larger than Wales. The moisture raised from its surface by the sun might clothe with verdure the surrounding wilderness.

16. *Carthage.*

Four-and-twenty centuries ago, on a peninsula, only 13 miles from the modern city of Tunis, stood the then mistress of the seas.

This proud title has been claimed by Britain for the last hundred years, but Carthage held sway for some 700 years. She sent her ships round Africa ; she planted colonies in Spain, and became mistress of that country and of the islands of Sicily and Sardinia. Her wealth was untold. She was the chief of thirty large cities in the country now called Tunis. Her own walls measured three-and-twenty miles round ; her citizens once numbered 700,000. Like Indian armies, her troops had trained elephants to fight her battles. With these one of her great leaders well-nigh blotted out the power of Rome—the city which was destined to succeed Carthage as mistress of Southern Europe.

Yet for the last 2000 years the province of Tunis has been a barren land. No elephants are found north of the Great Desert, nor are African elephants now trained to work for man. The great cities that once studded the land are no more ; the fields that once supplied with wheat the teeming millions of Italy now barely support their own few tillers.

Whence this great change? This now barren land is the very same as that of which our poet-laureate thus writes :—

‘ In the afternoon they came unto a land
Wherein it seemed always afternoon ;
All round the coast the languid air did swoon,
Breathing like one that had a troubled dream.
They saw the gleaming river seaward flow
From the inner land ; far off three mountain tops,
Three silent pinnacles of aged snow,
Stood sunset-flushed ; and, dewed with showery drops,
Up clomb the shadowy pine above the woven copse.

The charmed sunset lingered low adown
In the red west ; through mountain clefts the vale
Was seen far inland, and the yellow down
Bordered with palms, and many a winding vale
And meadow, set with slender galingale.'

The face of this fair land was wholly altered by the gradual upheaval of the very ten-mile barrier which has been named above. When the sea flowed in beyond the Gulf of Cabes, and formed a landlocked gulf 300 miles in length and 40 in width, the hot air from the Great Desert, blowing northward over this gulf, drew up the moisture. Thus the hot blast whose breath now burns up every green leaf and blade then brought moist heat.

When the barrier was slowly uplifted year after year, and the inland gulf thus severed from the Gulf of Cabes, the hot blasts dried up the water, and left what are now found, salt marshes and quicksands. So dangerous and treacherous are these, that if the leading camel of a caravan steps aside from the right track, he sinks down and disappears. Not only so, but as camels follow one another like sheep, the other camels one after another step into the treacherous slime, and are seen no more.

There seems strong reason to believe that on the west also a great inland sea lay where now is great part of the Sahara. It is even thought that this inland sea so nearly reached the gulf or lake on the south of Tunis that boats could be dragged across from one sheet of water to the other, as is done to this day across the portages of the short water-partings between rivers in the Dominion of Canada. .

If that were so, then in those days the Barbary States were almost islanded, and must have enjoyed a most beautiful climate. The soil was so rich that the inhabitants were able, with very slight toil, to grow not only enough for their own wants, but also spare produce wherewith to trade with other nations. Hence having enough and to spare, they had time to enjoy life in ease, and to devote themselves to the arts. Thus Africa, now called the Dark Continent, now the most benighted of lands, in earlier times boasted the greatest traders, and a state held up by wise writers of olden times as a model of good government.

Carthage, as has been already said, sent ships round Africa, a feat which was not afterwards attempted for many centuries. She had settlements here and there on the West Coast as far as Sierra Leone.

It may be thought no great exploit to steer ships along a coast-line keeping land always in sight, but Carthage did more than this. Her sailors boldly sailed northward across the open sea, worked tin mines in Cornwall, and visited Ireland. This at least was a daring feat for sailors who had no mariner's compass, but only sun and stars to steer by, and ships far smaller than we use. With long sweeps and oars, worked by gangs of slaves, their ships could go against wind and tide, like our modern steamships.

17. *Tunis.—Algeria.*

In Tunis, as in the other Barbary States, two races, Berbers and Arabs, dwell side by side, yet quite apart,

and though both Mohammedans, hating each other. The Arabs in these States are called Moors, the Berbers Kabyles. The former dwell chiefly in towns, the latter are wild, lawless herdsmen, and when they have the chance, robbers. Silken, woollen, and leathern goods, as also pottery, are made in Tunis, and sent to France, Italy, and Greece. There are groves of olive trees and date-palms, but little else. The Bey or ruler of Tunis is subject to the Sultan of Turkey.

From Tunis westward stretches the high tableland of Algeria, a country larger than the British Isles. The French have availed themselves of the hatred between Moors and Kabyles to make themselves masters of their soil. All success to any civilised nation willing to settle in this benighted land and reclaim its wild tribes! In the early days of Christianity the north of Africa was not merely the great corn-land of Italy, but the seat of hundreds of Christian churches, and studded with the sees of pious bishops and learned scholars.

The northern slopes of the Algerian coast-range, like those of Tunis, are very fruitful, and enjoy a temperate climate. There flourish groves of olives, oranges, lemons, citrons, and almonds, vineyards, and forests of oak, cedar, and cork trees.

Southward from the coast-range spread stony, barren heights and plateaux, pitted here and there with fertile oases, which, retaining moisture, grow food for man. Elsewhere the date-palm is the sole resource. Hence Algeria is thinly peopled, having less than three million inhabitants.

Along the coast the climate is very like that of the

lands across the water, the south of Italy and Spain. Toward the end of September rain falling plentifully soon covers the land with verdure, and turns the dry river-beds to torrents. Of these the largest, called the Sheliff, rising in the south of the tableland, works its way northward and westward among the hills to the coast by the busy harbour of Mostaganem.

The city of Algiers, standing on a bay open to the north, is one of the finest towns in Africa. The French quarter on the shore has broad and handsome streets; the Arab quarter, like Cairo and other eastern towns, consists of crooked lanes, lined with flat-roofed, windowless houses, which admit light through narrow gratings, and bear a gloomy, dungeon-like aspect.

Constantine, on the site of an old Numidian city, reminds us by its name of the first Christian Emperor of Rome, who built Constantinople. Could the old Roman conquerors whose ashes lie here come to life, they would be startled to see travellers and goods carried thence by railway to the coast, under the guidance of people speaking a language derived from their own Latin tongue. For the French have constructed a railroad along the coast from Algiers to Oran, a port on nearly the same meridian as London. By draining marsh land, they have been enabled to grow good crops of cotton. Abounding as it does in iron-ore, lead, copper, and zinc, besides the useful fruits named above, Algeria is a valuable possession to its French masters.

18. *Marocco.*

West of Algeria we reach Marocco, which, with an area three times as large as that of Britain, has only six million inhabitants, chiefly Berbers. The Moors, however, occupy the best parts of the country, that is the lands sloping from the long and lofty ridge of the Atlas to the sea-coast. The Moors are Arabs who swarmed across from Spain eleven centuries ago, and ousted the Romans from their African province, as they had already ousted their troops from Spain. These conquering Moors or Arabs were a learned, refined, and chivalrous race. Though they uprooted the Christian Church which was spread all over Roman Africa, they encouraged the arts and sciences. But such is the withering influence of Mohammedanism, that their offspring, the Moors of the present day, are half-civilised traders, dwelling in towns. Tillage of fields and care of herds and flocks they leave to the Berbers, who dwell in tents. There are many Jews in Marocco, the offspring of those who were driven from Spain and Portugal some four centuries ago. In those days the Jews were held in honour by the enlightened Moors. They are now treated with contempt and dislike.

The Sultan, an absolute monarch, keeps court at one time in the walled city of Marocco on the river Tensift, at another in the towered city of Fez, farther north, in the basin of the Sebu, at another time in Mequinez. In the days of our forefathers, many of the Barbary pirates, who during the sixteenth and seventeenth centuries were held in great awe, made their head-

quarters in the ports of Marocco. Of these ports the best known is Tangier, near the western entrance to the Strait, and on the north-west of the Riff, as the rugged heights are called which confront the rock of Gibraltar. All this north-western slope, having plenty of rain during the autumn and winter months, is very fruitful, and has a beautiful climate. The soil will produce almost any crop which the inhabitants will take the trouble to grow. The hill-sides are clothed with luxuriant forests, the high ridges of the overhanging mountains gashed with deep clefts, sometimes not more than a few feet wide.

The lofty Atlas range, towering upwards of 11,000 feet above the sea, allows little rain to be blown to its south-eastern slopes. These, having a scanty rainfall, are of course dry and barren. The Draa, a water-course as long as the Rhine, lies dry during about ten months of the year; during the two winter months it is full to the brim with a great river.

Marocco sends to Europe Fez caps and leather, and takes in return cottons, gunpowder, arms, glass, and trinkets. Some of these goods she then sends across the desert on camels' backs to the Sudan; midway the caravans add salt to their cargo. On their return journey the caravans bring gums, ostrich feathers, gold-dust, and slaves.

At the mouth of the Draa we bid farewell to the Dark Continent on which we have so long been travelling to and fro in a zigzag course from south to north.

19. *Odds and Ends.*

Before thrusting out into the Atlantic, however, it may be well to add a few words as to the land we are quitting.

The name Marocco is best known to us as the name of the leather made from the skins of goats. Great herds of goats are kept with little cost or pains on the rocky hill-sides, where they browse on plants that no other creature would eat. The paths over these hills are so steep and rugged that camels often break their backs as they are led across the passes. No sooner is the poor creature left by his owners than crowds of jackals pounce upon and tear him to pieces alive.

A favourite sport in Marocco is hunting boars, which haunt the swamps at the base of the mountains. Clad in light home-spun woollen shirts, with bare arms and legs, and heads covered with red caps or small turbans, the natives, mounted on 'barbs,' pursue their game with great keenness.

The 'barb,' so called from Barbary, is one of the best shaped horses in the world. They are noted for their small heads. A perfect barb can drink out of a quart pot.

Hunters who follow their game afoot wear leathern aprons to protect their skin from the thorns which abound here, as elsewhere in African thickets and bush.

The maned lion haunts the wilds of the Barbary States. The natives say that a lion will not attack a man if he goes on his way. Their usual plan for destroying the lion is to dig a trench four feet deep, arm it with stakes tipped with iron, and bait it with

a kid or other small animal. The lion, springing on his prey, is impaled on the stakes, and is then easily killed with a dagger.

The lion often attacks the boar, but the latter has been known to await the lion's charge, and rip up his flanks with his powerful tusks.

When a lion draws near a herd of cattle, the bulls place all the cows and calves together, and standing before them, charge the lion like a troop of lancers, and, unless he runs away, gore him to death by sheer weight.

The hill-sides of Marocco are well adapted to the vine, which is there trained on trellises. Grapes are often stolen by jackals. The fable of the fox and the grapes was based on this well-known liking of the fox-like jackal. They are fond of berries and dates too, which grow plentifully in Barbary.

The jungles abound with white-rose, jasmine, cistus, myrtle, arbutus, yellow-flowering shrubs, and dwarf oaks. The marshes are often gay with the pink plumage of the flamingo.

The tent of the Kabyle somewhat resembles a boat keel upward. It is made of palmetto fibre, goat's or camel's hair, woven with such skill as to be quite waterproof, and is propped by two poles seven or eight feet high.

The furniture of the tent is very scanty, so that when the failure of the pastures forces the owner to lead his flocks elsewhere, he has no heavy load to remove.

Every tent has a quern in which to grind corn, and two earthen slabs on which the flour is made into flat

cakes, like Scotch scones or bannocks of oatmeal and barleymeal. Besides these there are a spinning-wheel, distaff, and loom, for the spinning and weaving of wool into yarn and cloth ; a chest, in which clothes are kept ; earthen jars, and brass trays. For the latter the Moors are famed. They beat out brass into patterns of great beauty.

When a robber is taken prisoner his right hand and foot are hacked off, the stumps plunged into boiling pitch to stop the bleeding, and the poor wretch left to his fate.

In Marocco, as in the still more barbarous negro kingdoms, the people are subject to the caprice of the emperor, though intercourse with Europeans has a restraining influence. Where the nearness of white men has no influence, the caprice of the rulers seems to have no check. Such is the support given to the chief by his tribe, that if he order a subject's hands, ears, tongue, or any other part to be cut off, his orders are at once obeyed. The grave of a chief is usually strewn with broken earthenware, and covered with a hut. With his corpse his wives and slaves are often buried alive.

But the greatest curse of this whole continent, it cannot be too often repeated, is the slave-trade. The wanton loss of life in taking slaves is terrible. Thus we read of one single raid in which fifty-two women were captured. To secure these, ten villages were sacked, each sheltering about 150 people. Of these 1500, few if any of those not at once cut down could have escaped a lingering death.

From such a charnel-house as 'man's inhumanity to

man 'has made of much of this glorious central country of the world, it will be a relief to betake ourselves to more enlightened lands. Africa is in more senses than one the continent of animals, for besides so teeming with animal life that millions of creatures perish every year when the sun-dried grass is fired, men there live a merely animal life. May the day soon come when its wealth of cotton, coffee, sugar-cane, oil-palm, tobacco, nutmegs, pepper, rice, maize, will attract peaceful settlers, not to burn and slay, but to raise the degraded negro to purer manners and higher thoughts !

CHAPTER IV.

THE CANARIES—MADEIRA—THE AZORES.

QUITTING Africa at the south-western flank of the snow-capped chain of Mount Atlas, and sailing some eighty miles westward over the ocean named thereafter, we reach the first of a group of seven large islands, thrown up from the floor of the ocean by volcanic action. All the Canary Islands are mountainous, but the loftiest is the central isle, Teneriffe, whose peak soars to a height of 12,180 feet. The climate of these islands (which lie south of the 29th day-ring) is so enjoyable that to the ancients they were known as the Blest or Favoured Isles. They belong to Spain, and are tenanted by a mixed race, half native, half Spanish. Their chief export is the cochineal beetle, which yields a rich crimson dye.

Sailing 300 miles due north from Teneriffe, we reach the Portuguese island of Madeira, 'the wooded,' which is somewhat larger than our Isle of Man. It is noted for vineyards and fruits. The sugar-cane also and other tropical plants thrive there. Its beauty and clearness of climate make it a favourite health-resort for those whose weak lungs cannot stand the rigour of an English winter and spring.

To the Portuguese, too, belongs the group of nine

volcanic islands, called the Azores or Hawk Isles, which lie 800 miles west of Portugal.

The largest of the group, San Miguel, which is about the size of the Scotch Isle of Arran, is known to every schoolboy as St. Michael, which supplies our fruit-shops with sweet oranges and pine-apples.

Sailing hence eastward across some seven noon-rings, we land at the south-western corner of Portugal, Cape St Vincent, a bold rocky foreland, thrust out into the Atlantic as the spur of a range of high hills.

As we began our detailed survey of the world with Africa, as being the most self-contained of continents, so may we in approaching Europe first handle its south-western peninsula, severed as it is from the west of the continent by the lofty range of the Pyrenees, and covered with mountains akin to the great Atlas range, which we have so lately quitted. It may be well, however, first to take a general survey of Europe as a whole.

CHAPTER V.

EUROPE.

WITH less than one-third of the area of Africa, Europe has been for many ages past, and is still, of incomparably greater importance to mankind. Its deep inlets and gulfs contrast very strongly with the smooth outline of the larger continent, and give to Europe a coastline of 60,000 miles. Hence Europe has at all times bred brave and hardy toilers of the sea, both fishermen, sailors, and traders.

The central and northern parts of Europe are mostly flat, but their cold winters, and the need of active industry to raise crops from the land, forbid the dwellers there to lapse into the heedless sloth of the African negro. Were the southern countries of Europe as flat as its central and northern parts, the lack of great cold would tend to sap the vigour of the peasantry, as indeed is the case in the most evenly warm districts, viz. in the eastern and southern sea-board of Spain, the south of Italy, and Sicily. Happily their rugged, snow-capped mountains forbid their tillers and other dwellers to live in idleness. The very unevenness of the ground, bringing every muscle into play, maintains the bodily health of those who have to go up and down on their daily business.

The soil, climate, and minerals of Europe, however, though they discourage sloth, are such as well repay toil. Hence many of its inhabitants have leisure to follow the arts, to study science, and to think high thoughts, for the behoof of the masses, whose lot it is to till the ground, to work the mines, to plough the deep, or to buy and sell. Most of the greatest works of art and letters have been wrought by races dwelling in the most favoured countries of Europe,—Greece, Italy, Spain, France, and the British Isles.

The chain of mountains which parts the hilly south from the more northern parts of Europe, may be traced eastward from Cape Finisterre, on the north-west corner of Spain, to Cape Apheron, where the Caucasus range sinks to the Caspian Sea.

Between these points the Pyrenees, Alps, Carpathians, and Balkans follow a direction mainly east and west. To the plains on their south, they present bold escarpments or sharp slopes ; to the great plain on their north, they slope very gently, or descend by outliers and terraces one below another.

The crowning point of this belt of mountains is the Alps. Starting from the shores of the Gulf of Genoa, and ranging northward, the ridge attains its greatest height (14,000 feet) where it bends eastward. The breadth of the belt is here about 100 miles, and the glaciers are very large. After a course of 420 miles the ridge becomes lower, but the breadth increases to 200 miles. From the 16th meridian to where it joins the Balkans the breadth diminishes to eighty miles. On the northern slopes of the chain are many lakes ; at the southern base, only a few.

The lowlands north of these, broken here and there by a few shorter and lower ranges, are flanked on the west by the British Highlands and Scandinavian Mountains, on the east by the Ural Mountains. Of these heights, the main direction is north and south.

East of the British Highlands the great plain sinks some 200 feet below the level of the Atlantic; this depression is covered by the North Sea. Farther east the yet shallower Baltic penetrates far into the north-western plain.

Had the floors of these seas remained above the sea-level, the history of our island must needs have been far other than it has been.

The greater part of the lowlands of Europe, from the Bay of Biscay and the Welsh hills to the Ural Mountains, is well fitted, by soil and climate, for the growth of wheat, the most important of all crops for the food of man. In the west the wine-growing district extends a little way to the north of the main mountain ranges, but farther east it lies wholly to their south.

The greatest waterway of Europe is that in the north-east made by the river Volga, which, being joined by canals to other slow rivers, such as the Don and the Dnieper, forms a connection between four separate seas,—the Black Sea, the Caspian, the Baltic, and the White Sea. Of these, however, the three first are always ice-bound from December to April, and the last yet longer.

South of the main mountain ranges, and rising in their midst, the Danube, second among European rivers, with its sixty navigable feeders, forms a highway between the east and west of Europe, open, save in severe seasons, for ten months.

There is little tide in the Mediterranean, and none in the Black or Caspian Seas, owing to their severance from the great oceans swayed by the moon. Hence ships cannot avail themselves of the flowing tide to stem the stream of the rivers which flow into those inland seas. Our English Thames, which allows craft to float eighty miles inland with the tide, and is hardly ever frozen over, is of greater value to traders than the largest rivers yet named.

On the west of Europe, opening as it does to the Atlantic, we find many important towns built on rivers which admit ocean-going ships to float up-stream on the tide, as Nantes on the Loire, Bordeaux on the Garonne, Oporto on the Douro, Lisbon on the Tagus, Liverpool on the Mersey, Antwerp on the Scheldt, Rotterdam on the Meuse, and Hamburg on the Elbe. The latter river and the Rhine, from the position of their mouths, and their freedom from ice, are the most important waterways of Europe. The rivers which flow from the north of Europe to the Arctic Sea can be used only during the five summer months, being ice-bound during the other seven.

The greater part of Europe lies in that part of the globe where south-westerly winds prevail. These, as has been shown, are the return currents which replace the air drawn southward by the north-east trade-winds of the tropics. The moisture wafted from the Atlantic by south-westerly breezes is, of course, shed most plentifully on the western countries of Europe. By the time these winds have reached the Ural Mountains they have parted with their moisture, and become dry. The east of Europe, therefore, as also the lands

north of the Caucasus, which lie within the range of the north-east trade-winds, have far less rain, and a far drier and less equable climate than the west.

The various races of mankind which people Europe will be named as we visit their several countries. They are mostly of the same Aryan stock which we found occupying the Indo-Gangetic plain, and settling in our own islands at various times.

CHAPTER VI.

THE IBERIAN PENINSULA.

THE general shape of the Iberian Peninsula reminds one of an outstretched ox-hide. Its outline is, roughly, a square, of which each side is some 500 miles. The five-sixths of it forming the kingdom of Spain have more than twice the area of Great Britain; while Portugal, the remaining sixth, somewhat exceeds that of Ireland. It resembles Africa, to which it was once joined, in being nearly half tableland, in having much of its coast fringed with cliffs and lagoons, in having no rivers deep enough to admit sea-going ships far inland, and in having much of its surface waste and barren from lack of rain.

It is unlike Africa in that the mountains by which its high plateaux are ridged run east and west in chains nearly parallel to the Pyrenees, which form its isthmus.

1. *Inhabitants.*

The population of the whole peninsula is about 21 millions,—less, therefore, than that of England and Wales. Owing to its rugged mountain tracts, Spain has less than 90 persons to every square mile; even

the more fruitful western strip, Portugal, has only 116, a trifle more than hilly Scotland.

The range of the Pyrenees, 270 miles long and 60 miles broad, and whose highest peak (Pic Nethou, or Maladetta) exceeds 11,000 feet, is continued almost to Cape Finisterre by the Asturian or Cantabrian Mountains, which nowhere attain 9000 feet. The provinces of Asturias and Viscaya,¹ on their northern slope, called the Basque Provinces, are tenanted by the remains of the oldest inhabitants, the Iberians. This race held its own here when the Phœnicians of Carthage settled in the peninsula four-and-twenty centuries ago for the sake of its rich mines of quicksilver, copper, and iron; again when the Romans subdued it; and lastly when the Moors overran all the rest of the country. To this day they speak their grand old tongue, which is admired and envied even by the Spaniard, whose own noble speech is the admiration of all Europe. The modern Spaniards are the mixed offspring of Iberians, Kelts, Phœnicians, Romans, Goths, and Moors.

On the southern slopes of the Eastern Pyrenees is a small independent republic called Andorra, about the size of Rutland. This little State won its freedom in the eighth century by its bravery in the Moorish wars.

At this time, and as late as the fifteenth century, the country was split up into many separate kingdoms, just as Great Britain was 1200 years ago.

¹ Viscaya gives its name to the Bay of Biscay.

2. The Ebro.

Catalonia and Navarre, on the southern slope of the Pyrenees, as also the eastern flank of the high and dreary plateau of Old Castile, so called from the castles built to defend the kingdom against the Moors, are drained by the Ebro, which gave to the peninsula its old name Iberia. This river rises near the intersection of the 4th west noon-ring and the 43d north day-ring, and follows a south-westerly course to the Mediterranean. About its lower course is one of the only two lowland districts of any extent in the peninsula. Though more than twice the length of our Severn, the Ebro is so shallow, and its supply of water in the dry Spanish summer so scanty, that it is used chiefly to feed canals, some for irrigation, others for waterways. One of the latter runs alongside the middle course of the river for nearly a hundred miles above and below the walled city of Zaragoza (Saragossa). The Ebro ends in a delta studded with lagoons, on the same noon-ring as the mouth of the Thames. The dry heat of its valley fosters the growth of scorpions.

The hill country in the northern basin of the Ebro grows the strong white and red wines known as Catalan and Tarragona. The latter is the name of an important seaport and cotton-spinning town. Another Catalonian seaport, more to the north-east, Barcelona, known to every schoolboy owing to the tons of hazelnuts shipped thence, is the largest manufacturing town in the peninsula. Cotton-spinning, silk-weaving, iron-founding, and paper-making are its chief industries. The latter business is carried on also farther north at

Gerona. This town and Pamplona, 250 miles farther west, have strong forts to guard the passes of the Pyrenees. On the west the valley of the Ebro is flanked by the Iberian Mountains running south-east, and forming the eastern rim of a tableland which slopes thence to the Atlantic Ocean.

3. *South-East Coast.*

South of the Ebro, in the plain along the east coast, are the important seaports of Valencia and Alicante, famous for tobacco factories and exportation of the sun-dried grapes called raisins. The plains around Valencia are very fertile, owing to the soil washed down from the mountains by many short, swift torrents. Figs, oranges, and almonds grow freely in every part of this district. In the most favoured parts, fair crops of rice, cotton, and sugar-cane are raised.

Facing Valencia on the east are the Balearic Isles, of which the largest and most central, Majorca, is about the size of the county of Gloucester, and has in Palma an excellent harbour of refuge for ships overtaken by storms in the dreaded Bay of Valencia.

South of Alicante Bay, beyond the mouth of the river Segura, the rugged cliffs drop to the salt-supplying shores of a large lagoon, known as the *Mar Menor*, or Lesser Sea. West of this is the Spanish Portsmouth, the great naval station of Cartagena,—an offshoot and namesake of African Carthage, whose citizens planted a colony in this corner of Murcia five-and-twenty centuries ago. By them, perhaps, was introduced the date-palm,

which still grows in hot sandy nooks in this neighbourhood.

Skirting the cliff-bound coast toward the south-west, amid fleets of fishing smacks in pursuit of anchovies, and doubling Cape de Gata, we reach Almeria, which ships to our shores every autumn thousands of barrels of grapes packed in cork sawdust.

As we sail hence westward we sight the fine range of the Sierra Nevada, or the Snowy Ridge, towering on our right, five-and-twenty miles inland, to a height of 11,680 feet, and for a length of 100 miles, and half that breadth. Its saw-like ridge seen against the clear sky shows the justice of the name Sierra, or saw. At the north-western base of this rugged mountain-knot lies the beautiful city of Granada, one of the last towns held by the Moors before their final expulsion at the end of the fifteenth century. Their palace, called El Hambra, often misspelt Alhambra, contains some of the most beautiful bits of builders' design, skill, and workmanship to be seen in the world.

4. *South Coast.*

Skirting the coast of Andalucia for more than 100 miles westward from Almeria, we reach the port of Malaga, famed for its rasins and wines. In clefts of the sun-baked rocks near at hand is found that strange, many-hued lizard, the chameleon. In this neighbourhood the cochineal insect is reared on the cactus, which alone suits its growth.

As we sail westward through the Strait of Gibraltar we see our Union Jack on the rock fortress, and on the

African shore, facing Gibraltar, we see the Spanish flag at the port of Ceuta. The Spaniards have another port in the Riff, much farther east. The daring and lawless Kabyles at times ride close up to the walls of these towns, and fire at the Spanish sentinels.

We are now in the Atlantic, rounding Cape Trafalgar, where the gallant Nelson fought his last good fight, and, like Wolfe at Quebec, fell in the hour of victory. Farther to the north-west we reach the port of Cadiz, the site of a city built there by the Carthaginians. With wise foresight they always placed their settlements on peninsulas, so that their ships could defend them from attack by land. Cadiz Bay gives access to the more inland port of Jerez, which has given the name of sherry to the well-known Spanish wine shipped thence.

Cadiz, like Valencia, has valuable fisheries of tunny and sardines, and, like Murcia, exports much bay-salt, gathered from the shores of the shallow lagoons in its neighbourhood.

5. *West Coast.*

We have now reached the second lowland district of Spain, which lies on either side of the Guadalquivir (Wad-al-kivéer). Though the shortest of its large rivers, this is the most navigable on account of its fulness and sluggish course through a low plain. The tide makes itself felt for nearly 100 miles up-stream.

Cordova and Seville, on its banks, contain beautiful Moorish remains. The former is noted for leather, the latter for tobacco, and its neighbourhood for bitter

oranges and copper mines. The city of Seville is begirt with walls, which have fifteen gates and sixty-six towers. In the times of the Moors there were a hundred towers. The city boasts one of the finest of Gothic cathedrals.

The Guadalquivir draws its supplies from the Sierra Nevada on its left bank, and the Sierra Morena on its right. Both these ranges arrest the moisture blown up from the Atlantic by the south-westerly gales, thus robbing the centre and east of Spain of their due share of rain. Many parts of the provinces of Murcia and Andalucia are studded with groves of the evergreen oak, whose bark we call cork, and with mulberry trees for silkworm culture.

Coasting westward for many leagues past flat marshes and sand-dunes, we at length reach the mouth of the Guadiana (Wadiáhna), the last twenty miles of whose course form a boundary between Spain and Portugal.

In the middle course of this river is Badajoz (Badahóss), where many hundreds of British soldiers fell storming the breach in 1812.

In the upper valley stands Ciudad Real, where Wellington gained one of those brilliant victories by which he drove the French out of Spain.

The upper Guadiana is fed on the north by the mountains of Toledo and their western continuations. At Almaden are the richest quicksilver mines yet known.

Nearly 150 miles north of Cape St. Vincent (famed in the annals of the British navy for a brilliant victory) stands Lisbon, the capital of the kingdom of Portugal, on the north of the broad estuary of the Tagus or

Tajo. For beauty of situation it has only three rivals in Europe, Edinburgh, Palermo, and Constantinople.

It lies on the southern slope of a half ring of hills, which encircle the broad estuary of its river, and end seaward in the bold headland of La Roca. The city stretches for five miles along the river, which has here the look of a lake, being six miles wide. Besides its business as a seaport, it has linen, cotton, and woollen factories. Its population is about the same as Bristol. In the year 1755 Lisbon was almost wholly destroyed by an earthquake, in which 60,000 persons perished in six minutes.

6. *The Tagus.*

Tracing the Tagus upwards for about 150 miles, we cross the border, and, before reaching the source of the river, pass through the very heart of Spain. The river drains the plateau of Estremadura and New Castile.

In its basin stands Madrid, the capital, on a small stream called the Manzanares, which draws its water from the Sierra de Guadarrama, or Castilian Mountains, but is often dry. Standing 2132 feet above the sea-level, Madrid is the highest capital in Europe. It has fewer inhabitants than Leeds. In winter cold dry winds scour its treeless plain, and pools are frozen; during the dry parching heat of summer no green refreshes the eye. In spring and autumn, however, the climate is pleasant. Throughout Spain spring begins in January; by midsummer harvest is over. The shepherd, whose broad-brimmed hat has sheltered his body at noon from

the fierce summer sun, at nightfall dons his thick coat against the nipping cold.

Farther south lies Toledo, long famous for its steel swords, made from plentiful supplies of iron close at hand. At Talavera, west of Toledo, Wellesley gained one of his victories over the French. The Archbishop of Toledo is the Primate of Spain, as the Patriarch of Lisbon is of Portugal.

Spain has 4000 miles of railway ; Portugal 700 miles.

7. *The Douro.—Gallicia.*

From Madrid we may travel by railway westward over the heights of Guadarrama, or Castilian Mountains, into the basin of the Duero, which drains their northern slopes, as also the southern slopes of the mountains of Asturias, in which it rises. Valladolid, Palencia, and Burgos are the most important towns in its basin. The first-named town stands 2220 feet above the sea-level, near the centre of the tableland of Leon and Old Castile.

Old and New Castile are parted by the mountains of Guadarrama. Here browse vast herds of wild cattle. From these are taken the bulls for the fights which the Spaniards so much enjoy, and which cost the lives of 3000 or 4000 horses every year.

Turning westward through Portugal along the 41st day-ring, after forming a boundary between the two kingdoms for some sixty miles, the Duero is henceforth called the Douro. The Portuguese, like the Spanish, the French, and the Italians, speak a language derived

from Latin — the tongue of the conquering Romans. Portuguese is more nasal than Spanish or Italian, but less so than French. The whole of the lower valley of the Douro is noted for the black grapes which produce port wine, so called from Oporto, at the river mouth, whence it is shipped to England.

The northern boundary of Portugal near the coast is formed by the river Minho, in whose basin early potatoes, lettuces, and other vegetables and fruits, are raised for the English market.

Gallicia, the north-western corner of Spain, is tenanted by a rough and hard-working race, called Gallegos, whose speech, being more akin to Portuguese, is not understood by the Castilians. On the Gallician coast, half way between Cape Finisterre and Ortegal, stands the city of La Coruña (Corunya), where Sir John Moore fell victorious over the French. It stands on one of the deep inlets with which this cliff-bound coast is seamed, and is the centre of important fisheries.

Santander, on the north coast, 250 miles farther east, is the nearest port to Madrid, with which it is connected by a railroad of some 250 miles, passing through Palencia and Valladolid.

8. *Railways.*

East of Santander, Bilbao, the Spanish Woolwich, has extensive lodes of magnetic iron and abundant coal. Southward from Bilbao a railway leads through Burgos to Palencia. This line is joined on the way by another from the easternmost port of St. Sebastian.

After passing Vittoria, the scene of one of Welling-

ton's crowning victories, this railroad traces the valley of the Ebro as far as Zaragoza, the fortified capital of Aragon. From this city a line runs south-eastward to Madrid.

From Palencia a branch line runs north-westward through Leon, the capital of the old kingdom of Leon, to Gijon, a busy seaport half way between Cape Ortegal and Santander.

Southward, Madrid sends out trains to Toledo and to Ciudad Real; from the latter, westward by Badajoz to Lisbon. From this line a branch wends southward by Cordova to Malaga and Granada. Near Toledo a line branches south-eastward for Murcia and Alicante, throwing off a northerly branch to Valencia, and thence along the flat coast to Tarragona, Barcelona, and Gerona.

9. *Odds and Ends.*

Portugal has a far moister climate and less waste land than her neighbour. Coimbra, her only University town, standing more than half way on the railway which leads northward from Lisbon to Oporto, has nearly five times as much rain as London during the year; whereas Madrid, with an average of only ten inches, has less than half the rainfall of London.

Till within the last few years, the once enterprising inhabitants of this peninsula seemed to have given up the race to their northern rivals, France and Great Britain. Of late, however, a change has come over the spirit of the people, bringing a return of somewhat of the energy which, three or four centuries ago, when our

little island was of small account in the world, enabled them to become masters of Mexico, Brazil, Peru, the East Indies, and much of Africa. Spain was then a great nation. She boasted then, as she still boasts, no less than ten University towns, all of which, except Salamanca and Oviedo, have been already named in the foregoing section as famous for something else.

She has not yet learnt to tolerate the public services of any worshippers without the pale of the Roman Catholic Church. Her masses are still bigoted and unlettered.

The climate of the peninsula, as we have already seen, varies from one somewhat resembling that of Cornwall in the north-west, to the dry heat of Northern Africa in the south-east. For what Galicia gains by being nearer to the equator than Cornwall, it loses by lying so much more above the sea-level.

The dry heat of the south-east is due to the western and central mountains robbing the westerly winds of their Atlantic moisture; to the lack of forest land; and to the hot wind, called the Solano, which blows from the Sahara in August. Warm moisture from the neighbouring sea then makes the air light. Hence the heavy dry air of the African desert flows to replace it.

The mountains of Spain still harbour the bear and the wolf. The latter is a deadly foe to the herds of Merino sheep, whose soft wool, exported chiefly to France and England, forms the main wealth of Spain. On the spurs of the Pyrenees these valuable flocks are guarded by a powerful breed of wolf-hounds. When winter snows cover the north-western highlands, the sheep are driven southward in flocks of 100,000 head,

to graze along the roadside. Each of these flocks is guarded by fifty shepherds and fifty dogs.

Every landowner is compelled by law to leave ninety paces of pasture along the roadside for the sheep to nibble as they roam, till the return of spring melts the snows on their northern pastures. On the rugged peaks of the northern mountains, wild goats find their own living, and supply with food packs of wolves in winter. On the southern mountain ranges the wild goat is replaced by a wild sheep.

Spanish mules are the finest in the world. Their owners groom them well, and deck them gaily with many-hued ribbons, and with red-and-yellow-striped cloths. Their sureness of foot makes them of great service in carrying goods up and down the steep mountain passes. The Spanish ass is a far larger and handsomer animal than the stunted and often ill-used donkey of our towns and villages.

Gallicia, like Exmoor and Wales, is famous for a hardy breed of sturdy ponies. Castile rears thousands of strong cavalry horses. At the great horse fair held yearly at Ronda in Andalucia may be seen horses of the greatest beauty and value,—descendants of Arab sires brought over centuries ago by the Moors.

The heavy custom duties levied in Spain lead to much smuggling. Its long and rocky sea-board offer great facilities to escape detection.

Of late years Spain has suffered so much from the gradual destruction of the forests with which her central plateaux were formerly clad, that attempts are now being made to attract rain by planting trees. Only one-fifth of the country is now wooded. In the north-west

thrive apple trees ; in the lower ground in the centre, chestnuts ; in the south and east, olives, oranges, lemons, and pomegranates.

In these parts of Spain much silk is also grown. Most of it is sent in its raw state to the looms of France, there to be spun, dyed, and woven.

From the above it will be seen that Spain has much yet to do before she can again compete with her northern rivals.

CHAPTER VII.

FRANCE.

1. *Mountains.*

A RAILWAY from Madrid to Paris—from the capital of Spain to the capital of France—enters the latter country along the shores of the Bay of Biscay, between the Spanish town of St. Sebastian and the French Bayonne,—a name familiar to us chiefly from bayonets, which were first made in that town.

France is the richest and most favoured country on the mainland of Europe. Her area, somewhat less than that of 'the Peninsula,' which we have just been traversing, exceeds 200,000 square miles. Almost the whole of this is good soil, with a good climate. She has ports on three of the most frequented seas. From the English Channel, which forms her northern border, to the Lion's Gulf, which guards her south-eastern frontier, stretch 500 miles, mostly of undulating ground. The Bay of Biscay forms and guards her western border. Of her eastern frontier, the southern half is protected by the Alps, the Jura, and the Vosges Mountains; the northern half by no natural barrier, but only by a chain of strong forts. The Pyrenees form a sufficient barrier between the Bay of Biscay and the Lion's Gulf.

Few mountains vary the sameness of the fertile plains of France. The Cevennes form a long curve from a little north of the Eastern Pyrenees to the middle of the eastern part of the country, where they are taken up by the Côte d'Or, farther north by the Vosges, and still farther north by the Ardennes. Within this curve, and running nearly parallel to the Cevennes, but farther west, are the mountains of Forez, and still farther west the volcanic group of the mountains of Auvergne. In the latter range the Mont Dore soars to a greater height (6187 feet) than any other peak in the heart of France. On the bordering mountains, however, are summits of more than twice this height; for Mont Blanc, the monarch of the Alps, flaunts his diadem of snow at a height of nearly 16,000 feet just within the French border, while some peaks in the Pyrenees exceed 11,000 feet.

2. The Rhone.

Between the Alps and the Cevennes lies the deep valley of the Rhone. This great river, which issues from a mighty glacier in the Swiss Alps, after leaving its mud in the Lake of Geneva, pours westward into France a large volume of clear blue water. At the city of Lyons it is joined by the Saône, which brings from the north the drainage of the southern slopes of the Vosges and of the eastern slopes of the Côte d'Or. The Saône also receives the drainage of the pine-clad Jura by the Doubs, on whose banks stands the watchmaking town of Besançon.

A glance at the map will convince us that a river

rushing down a valley so begirt with mountains that it might almost be called a trench, can be of little service for navigation. The Rhone is a rapid torrent, which when flooded is most destructive both to persons and property.

The city of Lyons, standing at the fork between the Saône and the Rhone, and spanning her two rivers with eighteen bridges, has been oftentimes dangerously flooded by their unruly waters. Lyons, after Paris, is the largest city in France. Her citizens exceed those of Leeds in number. Her silks and velvets are known all the world over.

There are other towns of importance in this valley. Dijon, on the east of the Côte d'Or, carries on a large trade in the wines of the Burgundy district. Le Creuzot, at the south of the range, in the midst of a coal-field, has extensive iron works. St. Etienne, south-west of Lyons, which, standing a few miles to the west of the ridge of the Cevennes, looks down upon the valley of the upper Loire, in whose basin it lies, may be called the Birmingham of France, making, as it does, rifles, guns, and other iron goods, besides its silk weaving. Farther south in the Rhone valley, Nîmes and Montpellier have important manufactures. Marseille, on the coast, east of the delta of the Rhone, the third city of France in size, is a great trading port and steam-packet station. It was founded by Greek settlers many centuries ago.

East of Marseille is the naval station, Toulon. Yet farther east, along a part of the coast called the Riviera, are Cannes, Nice, and Mentone, whither northerners with weak lungs resort for health in the winter months.

During many ages the Rhone has been bringing down so much waste from the mountains as to have formed a large delta, which year after year is pushed out farther into the Lion's Gulf. Throughout the valley of the Rhone thrive the vine, the olive, and the mulberry; while in the more sheltered spots oranges, almonds, and pomegranates are grown.

The cities of Nîmes and Avignon are noted for their Roman remains. The wealthier Romans were fond of dwelling in 'the Province,' as they called this part of Gaul. Below Avignon the Durance swells the Rhone with the western drainage of the Maritime and Cottian Alps. Half way between this confluence and the city of Lyons the Isère brings in the western drainage of the Graian Alps and of Mont Blanc. Between the Isère and the Durance are extensive forests of oak, planted for the sake of black fungi, called truffles, which grow at their roots, and are much prized for their flavour.

3. *The Loire.*

The Cevennes and Auvergne Mountains, forming water-partings far to the south-east of France, force the mass of the rainfall to escape toward the north-west. As the water-parting is of no great height, and the rivers have a long course to run, it follows that France has the advantage of water-ways throughout a great portion of her soil. She has in fact 5500 miles of navigable rivers, eked out by a network of 150 canals.

The longest and most important of these rivers, the Loire, rises in the hollow between the Cevennes and the

Forez Mountains. After running northward between these two ranges, as soon as it issues from between them, the Loire winds to the north-west as far as the city of Orleans. There it curves round with a southerly bend, and then wends its way westward to the Bay of Biscay.

From between the Forez and Auvergne Mountains, the Allier sallies northward to swell the Loire on its left bank, just where it curves round to the west. A hundred miles lower down, at the old city of Tours, which is now noted for silk mills, it is joined on the same bank by the Cher, a little lower by the Indre, and lastly by the Vienne. On the banks of the last named stream stands Limoges, famed for fine porcelain.

On its right bank the Loire receives only one feeder of any size, the Sarthe, which flows southward through a coal-field. By means of this coal the towns of Le Mans and Angers are enabled to weave cotton and wool, and to carry on other manufactures.

At Nantes and St. Nazaire, at the mouth of the Loire, a large shipping trade with all the world is carried on. The basin of the Loire, which is in fact nearly half of France, is very fertile. Though the vine grows on its sunnier slopes, and indeed everywhere throughout its upper valley, its lower valley is more noted for peaches and fine pears. With the valley of the Loire much of the history of England is greatly concerned. Orleans, Blois, Tours, and Angers, are names familiar to us all.

4. The Garonne.

Between the Loire and the Pyrenees are the valleys of the Dordogne and the Garonne, whose joint estuary bears the name of the Gironde. Just so the Yorkshire Ouse and Trent blended, become the Humber. The Garonne carries northward the drainage of the central Pyrenees, and is joined by the Lot and other streams, which bring westward the western drainage of the southern Cevennes and Auvergne Mountains. The more northern of the Auvergne Mountains are drained by the Dordogne and its many feeders. Flowing in a north-westerly direction, the Garonne supplies the large city of Bordeaux with the finest river frontage in Europe. Here in 1370 the Black Prince held his court during his French victories. With quays lining the left bank of its noble river, Bourdeaux has every facility for shipping to foreign lands the light wines made on its banks. A French vineyard is not so pretty a sight as might be expected, because the vines are pruned very short, and trained very low. Hence the heat rising from the soil fosters the growth of the plants when the air is cooled at night. An English hop garden is therefore a far prettier sight than a French vineyard.

The other important town on the banks of the Garonne is Toulouse. Engineers have cleverly availed themselves of this river, and of the depression between the Cevennes and Pyrenees, to construct a canal by means of which ships can pass from the Bay of Biscay to the Lion's Gulf without having to pass round Spain.

Southward from the Gironde, for about 150 miles, stretch the barren sand-dunes and marshes of the

Landes. Over these wastes the peasants stalk on stilts. Pines successfully planted to fix these sands have utilized a large tract which formerly lay idle. A few miles north of the Gironde, the river Charente, on which stands the town of Cognac, has a shipping trade in brandy. Rochefort, near the mouth of this river, is one of the French naval stations. Another is found farther north at L'Orient, on the southern coast of Brittany. The Peninsula of Brittany is inhabited by a Keltic people, akin to the ancient Britons, and to the Cornish, Welsh, Frank, Manx, Irish, and Scotch Highlanders. In a sheltered bay in the west of Brittany is the naval station of Brest.

5. *The Seine.*

Between the Loire and the English Channel, the main river is the Seine, rising in the plateau of Langres. The early course of the Seine is almost parallel to the early course of the Loire. Taking up the Aube on its right and the Yonne on its left bank, it bends westward to the forest of Fontainebleau, where it is not more than fifty miles distant from the Loire as it winds through the forest of Orleans. The Seine now pursues a north-westerly course, and just outside Paris receives on its right bank the Marne from the Ardennes, and a little below and north of that gay city the Oise on the same bank.

The Marne, by skilful engineering, has been joined to the Rhine above Strasburg by a canal carried over the Vosges. Lower down it receives from the south, on its left bank, the waters of the Eure. Forty miles

from its mouth the Seine drains the large cotton manufacturing town of Rouen. The beautiful cathedral of Rouen enshrines the heart of Richard I., the Lion-hearted, who though king of England was no Englishman, and would have scorned to be so called. At the northern entrance of the mouth by which it enters the English Channel with a westerly bearing, stands the important port of Le Havre.

The eastern slopes of the Ardennes are drained by the Meuse, those of the Vosges by the Moselle; but as both these rivers quit France while still young, we need only name Nancy, a town in the upper valley of the Moselle, and Sedan on the Meuse. Both these wool manufacturing towns suffered in the war of 1871 between France and Germany.

The north of France, which we have now reached, differs little in climate from the south of England. Winter in Paris is perhaps slightly colder, as summer is three or four degrees warmer than in London.

The city of Paris, though not striking in point of situation, is very clean, and full of good streets and handsome buildings. Its inhabitants number about half those of London, falling short of two millions. Silk weaving and many kinds of manufactures of ornaments and pretty trifles are carried on in Paris. At Sèvres, to its south-west, are famous porcelain works, excelled only by our Worcester china. Though so far north, Paris for hundreds of years has been the seat of government. Her fine streets have many a time been reddened with the blood of her citizens struggling in civil war. The original city of the Keltic tribes whom Julius Cæsar found here when he conquered

Gaul, was built on two islands in the Seine. The modern city lines both banks for miles, and spans the river with many fine bridges. The Seine is too small to give to Paris the commercial advantages which the Thames confers upon London. The President of the French Republic and the Assemblies, which correspond to our Houses of Parliament, carry on their work and deliberations in Paris. A little while ago, owing to the unsettled state of Paris, they met at Versailles, in one of the most sumptuous palaces ever built by a despotic king out of the hard-wrung taxes of an oppressed people.

6. *The North-East.*

North-east of the Seine is no river of any size within the French frontier, but there are some important manufacturing towns, which avail themselves of the coal found on the borders of Belgium.

Eighty miles due north of Paris, the city of Amiens, famed for a cathedral of surpassing beauty, manufactures cotton. North-east of Amiens, passing the fortified city of Arras, which gave its name to the wall-hanging made there hundreds of years since, we reach Lille, which is now the fourth town in France in size, and has large manufactures of linen, cotton, and wool. These trades are also shared by the towns of Valenciennes, Cambrai, Douai, and St. Quentin. A network of railways traverses this district.

In studying the map of France we cannot fail to notice that the names of the departments into which the country is divided, as England is into counties, are

mostly taken from the rivers which flow through them. French children are thus enabled to learn the geography of their country more easily than we learn ours. The readiest way of remembering the details of lands is to note the courses of the rivers and their feeders. They form, as it were, cords on which we may string all our beads till we have finished our necklace, and have our countries complete in our heads.

7. The North Coast.

Before quitting France we will skirt its north coast. About sixty miles south of our Isle of Wight a peninsula juts northward from Normandy. On its northern shores is Cherbourg, the French Portsmouth. To the west of this peninsula are the Channel Isles, sole relics of the Norman dukes, who unseated our early English kings and nobles. The ports of Boulogne and Calais trade chiefly with England. Between the port of Calais and the chalk cliffs of Gris-Nez, or Grey Nose Head, the Channel narrows to a strait of twenty-three miles. Eastward from Calais the shores are flat and sandy. Dunkerque, the chief port on this coast, having now good quays and docks, is likely henceforth to command a great trade as the outlet for the manufactures of the group of northern towns south of Lille.

8. Odds and Ends.

The French are a sober, thrifty, saving people. They mostly live quiet country lives, carefully tilling their

small farms, and making a little go a long way. A French family would live on what a wasteful English mechanic throws away or gives to his dog. Hence they are a wealthy nation. A Frenchman, who spending money on himself, failed to make suitable provision for his children, or for his aged parents, would be scouted by his fellow-countrymen.

The north of France grows large crops of fine wheat, as also much beetroot for sugar-making. Normandy, like our Devonshire and Somerset, has always been famed for its cider apples. By thrift and care the farmers contrive to send over to England many millions of eggs. Farther south maize takes the place of wheat. Of the vine we have already spoken as growing everywhere south of a line drawn from the mouth of the Loire to the Ardennes. In the sunny south we find olives, figs, citrons, pomegranates, and mulberries.

Unlike Spain, France, though a Roman Catholic country, freely tolerates other forms of public worship. Her population is between 36 and 37 millions, more evenly distributed than that of England. In this respect France somewhat resembles Ireland, which, without important manufactures, has to maintain nearly as large a number of persons to the square mile. The French also resemble the Irish in their eagerness to have each a plot of land of his own, as in thriftiness they resemble the Scotch. In education the French are at present somewhat behind their northern and eastern neighbours. Of railways, France has 13,000 miles. The level nature of most of the country offers every facility for making railroads.

South of the Gulf of Genoa, the mountainous, forest-

clad island of Corsica for the last hundred years has been subject to France. Though not much larger than Devonshire, it boasts of peaks exceeding 9000 feet in height. The scenery of the island is very beautiful. Endless blood-feuds formerly ruined its peace and prosperity.

The French have large and thriving settlements abroad. To them belong Algiers and the Gaboon in Africa, Siam in Southern Asia, a few stations in India, part of Guayana, some of the West Indian Islands, the Sandwich Islands, New Caledonia, and various other places.

To guard their foreign possessions and commerce the French keep a powerful fleet.

CHAPTER VIII.

ITALY.

IN Italy we are among another of the peoples who, like the French, the Spanish, and the Portuguese, retain the spoken language of the Romans. The Italians, however, as might be expected, retain a form more nearly resembling the Latin tongue than their Western neighbours, whose forefathers had not as good models to copy.

The position of Italy in Europe resembles that of India in Asia, in being completely cut off from the northern tracts by a high mountain barrier. Its whole area, including its islands, falls somewhat short of the area of the British Isles ; its total length from north to south, 700 miles, is about the same as from the Shetlands to Land's End.

We may enter Italy from France somewhat as we entered France from Spain, by a road along the shore, between the mountains and the Gulf of Genoa. The views of the mountains on the one side, and the blue sea on the other, make this the most beautiful drive in all Europe.

The Alps are here continued by a lower range, the Apennines, which from the Gulf of Genoa for many leagues runs nearly due east. After stretching about

two-thirds of the distance across the peninsula, the range curves to the south-east, and so continues nearly parallel to the east coast, at a distance from it varying from twenty to fifty miles, to the very toe of Italy, Cape Spartivento. The ridge thus running down a country whose average breadth is only about 100 miles,—or the width of England between the Humber and the Mersey,—sheds short streams right and left, and leaves no room for rivers of any length. Of these short streams, the most notable are the Arno, on whose banks stands the fair city of Florence; and the yet more famous Tiber, which passes through the city of Rome. Rome is now the capital of the new kingdom of Italy. Centuries ago she was the mistress of all the lands around the Mediterranean, and of our own island. Later she became the capital of the sovereign pontiff of the Catholic Church.

The highest summit of the Apennines, Monte Corvo, or the Great Rock (9543 feet), lies north-east of Rome, some twenty miles from the shores of the Adriatic, and about the middle of the range. Though below the snow-line, the tops of these mountains are often covered with snow during the winter months, and send down chilling blasts on the plains and valleys nestling at their feet. The swampy ground about the mouth of the Arno, and to a yet greater degree, the sixty miles stretching along the coast from the Tiber to the Pontine marshes, are fraught with poisonous air, as are the mangrove swamps on the coast of Africa.

Instead of entering Italy as we have done by the Riviera, we might have taken the train from Paris by Lyons and Savoy, and, plunging for eight miles through

the Mont Cenis tunnel, beneath the Alps, have found ourselves speeding over the plains of Piedmont to Turin.

There, in the evening, walking the streets of one of the best built cities in Europe, we might watch the snows of the Alps reddening with the rosy tints of sunset.

2. *The Po.*

From Turin we might make our way leisurely to the Adriatic, floating down the River Po. This, the only important river in Italy, rises in the Maritime Alps. Winding eastward with a sluggish course, at the feet of the encircling Alps, whose drainage it collects by countless feeders on its left bank, the Po discharges its waters by several mouths. The effect of the mud brought down yearly by this river is well seen in the fact that the town of Adria, once a seaport which gave its name to the adjoining sea, now stands ten miles inland from the coast. In the course of time, no doubt, the river Adige, which now enters the sea somewhat north of the delta of the Po, as that delta is pushed seaward, will become a feeder of the Po.

The densely peopled plain of Lombardy, watered by the Po, stretches 300 miles from east to west. All over this flat plain the river water is drawn off by canals and sluices, so as to keep the crops green in the hottest and driest summer weather. Hence the Lombard farmers mow their meadows six times a year, rear horses and cattle, and export much cheese, besides growing for their own use splendid crops of wheat, maize, and rice, and making wine from their own grapes.

The glory of this plain is the white marble cathedral of Milan, with its hundred pinnacles and its thousands of statues. Like Turin, and other towns in the plain, Milan employs many pairs of hands in winding, spinning, and weaving silk. To feed her silkworms, Italy grows many millions of mulberry trees.

From Milan we might wander northward to see the Alpine summits mirrored in the beautiful hill-girt lakes, Maggiore, Lugano, wooded Como, Iseo, or Garda. Fairer scenes than may be found there it would be hard to find anywhere.

3. *Venice.*

But instead of lingering over their beauties, we must go eastward to the famous city of Venice. Built on many low islands for safety from attack in lawless times, Venice has canals of salt water for streets and gondolas for cabs. Far pleasanter is it to glide from house to house without noise or jolting, than to be roughly rattled over the stones of a noisy street.

Venice was once a very powerful and wealthy city. Her merchants traded with the East, and amassed great wealth. Her painters were no less famous than her statesmen and her traders. Now even her former skill and taste in glass-making is not what it was once. Her chief employment is making beads, which in Africa pass as coins.

4. *West Coast.*

Retracing our steps westward, without stopping to see the once famous cities of Padua and Verona, or the

strong fortress of Mantua, we cross the Apennines to the busy seaport of Genoa, where Christopher Columbus was born. The glory of equipping him for the discovery of America might have belonged to our Henry VII., had not Ferdinand and Isabella of Spain supplied him with ships and crews.

South-east of Genoa we reach the great naval station of Spezia. Italy has a very strong fleet of ironclads, heavily armed. Inland from Spezia is the Carrara district, noted for the white marble out of which sculptors hew statues.

Shortly after passing the mouth of the Arno, without stopping to visit the leaning tower of Pisa not far from the coast, we reach another important seaport, Leghorn, which gives its name to the fine straw hats made in the province of Tuscany, and thence shipped to France and England. Here six-and-twenty centuries ago lived a wonderful race, the Etruscans, many of whose beautiful works of art still exist, and have served as models to Greek, Roman, Italian, and modern artists. Whence they came, and who they were, we know not, but they were probably akin to the Aryans of Hindustan.

Fair Florence, the chief city of Tuscany, finely placed at the foot of the Apennines, has a church in which lie the bones of some of Italy's greatest—the poet Dante; Michael Angelo, sculptor, painter, architect, and poet; and Galileo the astronomer. Tuscany is famous for her sheep. Umbria, adjoining it on the south, feeds vast herds of swine on the eastern slopes of the wooded Apennines. On our way southward from Leghorn we pass the Isle of Elba, where the first Napoleon was imprisoned in 1814.

Without calling at the Latian port, Civita Vecchia (*i.e.* old town), we soon visit a city founded more than twenty-six centuries ago. Sixteen hundred years ago Rome had as many citizens as Paris has. Now she has fewer than Leeds. The masonry and remains of her former greatness; her position as the capital of Italy, and the see of the chief bishop of the Catholic Church; the unrivalled galleries of pictures and statues in the Vatican and other palaces; her churches, including St. Peter's, the grandest and largest church in the world,—all these combine to make Rome a city of surpassing interest.

5. *Naples.*

North Italy has short, cold winters, an early genial spring, a long and hot summer. Rome has far hotter summers than England, but her winters are not so cold as ours. The south of Italy, to which we are now coasting, has mild winters; and indeed throughout the year as perfect a climate as could be wished. The Italian sky is of a deep blue, more often cloudless than overcast. The air is so pure that distant objects look quite close, the outline of distant hills as clearly marked as the ridge of a roof seen from a street in England.

The city of Naples, a seaport and fishing town of great importance, and the most populous town in Italy, stands on the northern wing of one of the most beautiful bays in Europe. The houses are built as in Lisbon, on the slopes of a range of hills. Over the middle of the bay towers the conical volcano of Vesuvius, at whose feet are the remains of two old Roman cities, one

buried in ashes, the other overwhelmed by molten lava 1800 years ago. In the neighbouring island of Ischia a recent earthquake destroyed a whole town.

The city of Naples, where the soft climate tempts men to be lazy, abounds in beggars and thieves. The latter are deemed the nimblest and cleverest thieves in the world. The Neapolitans even eat their dinner lazily. You may see them lying on their backs, holding strings of stewed macaroni high over their mouths, and leisurely sucking down the pipes.

Naples, meaning new city, was, like many towns in the south of Italy and Sicily, originally founded by Greeks.

6. *Sardinia and Sicily.*

If we sail westward from Naples for 200 miles across the Tyrrhenian Sea, we reach the island of Sardinia, which gives its name to the fish which our Cornish fishermen call pilchards, but which the French call sardines. The island is 180 miles from north to south, and very mountainous. Its chief town and port, Cagliari, on the middle of its south coast, exports sea or bay-salt.

The most valuable kinds of fish taken in these waters are the anchovy and the tunny. The latter fish, whose flesh is as firm as a chicken's, which it slightly resembles in taste, is taken chiefly in the neighbourhood of the fruitful island of Sicily, which forms a connecting link between Europe and Africa.

When Carthage was becoming mistress of the Mediterranean, among her first conquests was Sicily. Lying as

it does within 100 miles of her shores, it formed an easy prey to a strong naval power.

The same volcanic activity which overhangs the Bay of Naples crops up in the island of Stromboli, and farther south on the east coast of Sicily in Mount Etna, which reaches nearly 11,000 feet. South of Etna is the seaport of Catania, which exports large quantities of sulphur or brimstone; and still farther south, Syracuse, an old Greek colony, which played a prominent part in ancient history. Along the northern coast of Sicily runs a ridge of mountains. On the north of this ridge, near its western end, stands Palermo, the capital of the island. It overlooks a fine bay and a beautiful vale, called the Golden Shell. The flat-roofed, glass-doored houses of Palermo give the city a very uncommon appearance. On the west coast the town of Marsala gives its name to the white wine exported from Sicily. The best harbour, and one of the best in Europe, is that of Messina on the north-east coast. The hilly peninsula of Italy facing it on the west, and the cape projecting eastward from the Sicilian coast to its north, form natural breakwaters against every wind. There is an eddy near the harbour, caused by currents from north and south meeting in the narrow strait, whose opening is only three miles wide. To the small craft of the Greek seamen in olden times this appeared so dangerous, that a perilous position was commonly described as passing between Scylla and Charybdis—two fabulous monsters supposed to lie in wait on either side of the strait to swallow men up.

7. Products and People.

From north to south Italy abounds in vines, not grown as in France, as low as raspberry canes, but climbing some tree stem and dropping their clusters of grapes overhead in the most graceful way. In many a small patch of ground may be seen fig-trees, olives, and vines, with lowlier crops at their feet.

In some parts of Sicily are such trees and shrubs as grow in Africa,—cacti, aloes, and palms, besides those common to Italy.

Travellers in the peninsula pass through orchards of peaches, almonds, oranges, lemons, and figs. Everywhere the olive is grown for its oil, the mulberry to feed silkworms. With her silk and oil Italy buys our iron and calicoes.

On the slopes of the Apennines are forests of chestnuts, cork-oaks, myrtles, and cypress; above these, of oaks and beeches; higher still are pine woods.

Till quite lately the rugged, forest-clad heights sheltered robbers, who were wont to pounce upon some rich traveller and keep him prisoner till ransomed for some great sum by his friends. If payment were long delayed, they would send one of his ears to show what treatment he would get if the money were not quickly forthcoming. In some of the wilder parts travellers have more to fear from brigands than from wolves.

The Italians are among the cleverest and most quick-witted races of Europe. They are born musicians and singers, and have often lovely voices. No uncommon gift among them is the knack of making up verses off-

hand on any passing matter, and reciting their lines freely to knots of eager listeners.

The peasantry are as yet almost wholly unlettered ; but efforts are now being made to spread education.

A few hundred years ago, English nobles sent their sons to sit at the feet of Italian professors, in one or other of their three-and-twenty universities, whose fame was then great throughout all Europe.

The bad effect of this popular ignorance is seen in the thoughtless cruelty which most Italians show to animals. They seem utterly blind to the brutality and cowardice of ill-treating creatures kept to do man service, as horses, oxen, mules, and asses. For the last two animals Sicily is as famous as Spain. As in Spain, too, ploughs are drawn chiefly by oxen, or in many parts by smooth-skinned buffaloes.

Our Indian officials traverse Italy from Mont Cenis to Brindisi, a seaport at its heel, as their quickest route from London to Bombay.

Besides this, her main railroad, another leads past Turin, Milan, Verona, and Vincenza, to Venice, tapped at Verona by a line running southward through Mantua to Modena, and joined near Venice by a line from the east, which meets the main line at Bologna, and thence crosses the Apennines to Florence, Lucca, and Pisa.

Along the west coast run lines from Spezia, Pisa, Leghorn, to Civita Vecchia, Rome, and Naples. From Rome a railroad runs northward over the Apennines to Ancona, the main port on the Adriatic. From Naples a line crosses the mountains to join the main artery from Turin to Brindisi.

CHAPTER IX.

GREECE.

IN sailing from Brindisi for the Suez Canal the traveller skirts the western shores of Greece, and threads his way southward past her Ionian Islands.

Were countries valued only by their size, we should not spend many lines on Greece. Having in all little over 19,000 square miles of land, and that so broken with knots of rugged mountains that only one-third of it is fit for tillage, Greece may well be likened to the Highlands of Scotland north of the Firths of Clyde and Forth.

Though Greece, lying on the same day-rings as Sicily and Andalucia, has hot summers, her rugged heights, which rise to 8000 feet, and are snow-clad during the winter months, give sufficient cold and climbing to keep up the rigour of her sons, who are skilful seamen, fishers, and traders. True, there are but a million and a half of them, but they are the sons of men who, before Rome rose to power, had written poetry, history, and philosophy, had built temples and hewn statues, which to this day are models of unequalled beauty and power. The modern Greek speaks a tongue so like that of their writers of three-and-twenty centuries ago as to enable him to read and understand their great

works. As yet, however, the Greeks are behindhand in education. Only since 1830 have they been set free from Turkish misrule, from which they are striving to free such of their kinsmen as still groan beneath the hated yoke.

Like Scotland, Greece is cut up into islands and peninsulas, and deeply indented by the sea. Athens, her capital and largest city, has less than 50,000 people, being but a small town to what she was in the palmy days of ancient Greece. Of her islands, the largest, Eubœa, or Egripo, is 100 miles long; the most important is the small isle of Syra, in the Ægean Sea, which is a station and place of call for steamships. Her only railway is a seven miles line between Athens and its port, the Piræus.

The currants which we use for our cakes and buns are small grapes grown in Greece, and so called from the town of Corinth. Patras is the port which chiefly ships them to England and to other countries. The vine and olive thrive throughout Greece; but as yet not more than half of the soil that might be tilled is worked, and her wines are too roughly made to compete with those of her western rivals.

The only stream of any size in the Morea is the Alpheus, which flows eastward to the Ionian Sea, past the site of Olympia.

Here at stated periods, more than 2000 years ago, the youth and manhood of all parts of Greece met to vie with one another in racing, boxing, wrestling, and other feats of skill and strength. Skilled artists, musicians, poets, and philosophers, the Greeks wisely took great pains to keep their bodies in good health, by

pure air, plain food, and outdoor sports, shared by girls as well as youths.

With the exception of the chain of Mount Othrys, which runs westward from the Gulf of Volo, along the 39th day-ring, the mountains of Greece are rugged, irregular masses. The highest peak, Mount Kiona, in the north, attains a height of 8240 feet.

The wild flowers that deck the hill-sides and vales of Greece supply honey to bees, which are much kept now, as in olden times, when the honey of Mount Hymettus was noted far and wide. Flocks of goats, as well as sheep, are kept at a fair profit on the mountain pastures, especially in the heart of the Morea, or Mulberry Leaf, as peninsular Greece is called. We call Spain and Italy peninsulas, but the Morea is far more rightly so-called, as the isthmus of Corinth, which alone parts the gulfs of Corinth and Egina, is only four miles wide.

In the north of the latter gulf is the island of Salamis, where centuries ago the Greek fleet defeated the great fleet of the Persian monarch, as the English fleet beat off the Spanish Armada. Facing Salamis on the east is the Piræus, the ancient port of the famous old city of Athens, in days of yore the eye of Greece. The beautiful temple called the Parthenon stood there, sound and whole, till the Venetians laid siege to the city, 200 years ago, and battered its matchless friezes with their cannon. Its ruined sculptures are now in the British Museum in London.

To the Athenian seamen of old, who seldom ventured out of sight of land, the sea to the south-east studded with islands was the chief sea. Hence it had the name which it still bears, of the Archipelago, or Chief Sea.

By a natural mistake, this name has been wrongly transferred not to other seas, but to other groups or clusters of islands.

The larger Ionian islands off the south and west coast of Greece were under British rule till a high-minded English statesman handed them over to the Greeks.

All these islands enjoy a fine climate and clear air. Greece would be more visited by travellers were it not that she lacks good roads, and her hills harbour robbers, whom the unsettled state of the Turkish border makes her powerless to put down. Owing to lack of roads and inns, travelling is effected by pack-horses or mules.

In her palmy days of old a mass of small republics, Greece is now a kingdom ; not under a native prince, but under a son of the reigning King of Denmark, and a brother of our Princess of Wales.

CHAPTER X.

THE BALKAN PENINSULA.

1. *Constantinople.*

NORTH of the little territory of modern Greece stretches a hilly and mountainous tract, held in olden times by men of Greek blood, but for the last four centuries under the sway of the Sultan of Turkey. Midway between the Ionian Sea and the Ægean, the Pindus range, running northward and parting the old provinces of Epirus and Thessaly, sheds short rivers east and west. The latter are mountain torrents, useful only for mill driving, and for floating down timber felled on the hill-sides. The Salembria, however, which waters and drains the fertile plain of Thessaly, admits vessels from the Ægean to the trading town of Larissa. The mouth of this river is overhung on the north by the snow-capped Olympus. This mountain, nearly 10,000 feet in height, is known to all readers of the old Greek poets as the abode of their fabled gods. Southward tower the less lofty peaks of Ossa and Pelion, the latter overhanging the Gulf of Volo.

North and north-east of Thessaly stretches the less rugged tract of Macedonia. Thence, in the year 334 B.C., the young king, Alexander the Great, sallied east-

ward in command of the united forces of Greece to overthrow the Persian kingdom, which had so often striven to subdue their beloved land. We have seen elsewhere how he led his victorious army across the Indus at Attock into the Panjáb, and descended the Satlej in rafts. The Turks who have so long held his country in bondage are the offspring, it may be, of some among the many tribes who sent messengers to the Greek conqueror to sue for peace as he swept onward in his victorious march.

Into the Gulf of Salonica (Saloneeka) flows a larger river, the Vardar. Alongside it a railway from the important seaport of Salonica has been carried northward beyond the watershed. The topmost peaks of the mountains, amid which this railroad runs, approach 8000 feet, and for half the year are capped with snow. Some 200 miles eastward, the River Maritza, carrying to the Ægean Sea the drainage of the southern slopes of the Balkan range, and of the northern and eastern slopes of the Rhodope Mountains, through the broad and fertile plain of Thrace, admits vessels eighty miles inland, to the trading town of Adrianople. This river also is accompanied by a railroad, which sends off a branch eastward to Constantinople, the most advantageously and beautifully placed capital in Europe.

The city stands on a peninsula, lying between the south-western opening of the Bosphorus and a landlocked harbour on its north-east, called the Golden Horn, in which the largest ships can anchor, as many thousands of trading vessels do every year. Easily defended, both by land and water, and commanding the traffic of two seas, Stamboul, as the Turks call the city

has been greedily eyed by many nations during the three-and-twenty centuries that have passed since it was first built by the early Greek settlers. The Bosphorus carries past it to the Sea of Marmora the overflow of the Black Sea. In its swift clear stream of deep-blue salt water, shoals of fish swim so thick that a line armed with hooks can scarcely be cast among them without pulling up three or four at a throw.

2. *Rumili.*

Rumili, the tract for eight noon-rings westward of Constantinople, has a most fruitful soil and perfect climate. Tobacco, olive, orange trees, and vines grow freely in its sheltered plains. Its mountains are covered with forests of good timber, haunted by bears and wolves. On its hilly pastures browse the sheep from whose wool, when dyed, the famous Turkey carpets are made. Horses thrive in the plains, and buffaloes draw the carts and ploughs. The silkworm employs many weavers in the towns. To feed the grubs many acres of mulberry trees are grown.

There is the same lack of good roads in Rumili as in Greece. Goods are still carried about, as has been the custom for ages past, by pack-horses, mules, and asses. There are as yet only 1000 miles of railroad. The Turkish peasants are a fine hardy race, sober and well disposed, but very badly governed.

The Rumilians of the upper valley of the Maritza, between the Balkan and the Rhodope ranges, have now a Christian governor of their own, though they pay tribute to the Sultan. This country is beautiful and

productive. In its north, at the foot of the steep Balkans, miles upon miles of rose-bushes are grown for the making of attar.

3. *Bulgaria.*

So, too, on the northern slope of the Balkans, the ancient kingdom of Bulgaria has now once more a ruler of its own, as ten centuries ago. The land is well watered by many short streams flowing northward to the Danube, and sends to Varna, its port on the Black Sea, many tons of wheat and maize. A railway from the busy town of Rustchuk on the Danube, joined by one from the strong fortress of Shumla, helps to convey spare produce to Varna.

4. *Romania.*

Facing Bulgaria, across the great river, Romania occupies not only the whole northern watershed of the lower Danube, but also its delta and the tableland on the south of the delta, called the Dobrudsha. Where the river, in bending northward before forming its delta, approaches within thirty miles of the Black Sea, may still be seen the double wall built by the Roman Emperor Trajan to protect the empire from the Dacians and other barbarians. It closely resembles that built by the Roman Emperor Hadrian from the Solway Firth to the Tweed. Between the walls is room for large bodies of troops to march; every two or three miles there is room for a camp; between each camp are forts and sentry sheds, and the walls are flanked by deep trenches. A

railway runs alongside the wall to Kustendji on the Black Sea.

The Romanians are the mixed offspring of Roman settlers and Dacians, and their tongue, like that of the Italians, is of Latin origin. They live in hovels worse than the wretched cabins in the west of Ireland.

From Giurgevo, facing Rustchuk, on the Danube, a railway runs northward across Rumania to its capital, Bucharest, a city with a quarter of a million souls, and thence eastward to Galatz at the head of the delta. From Galatz one branch leads in a north-easterly direction across the Pruth, which forms the eastern boundary; another northward, up the valley of the Sereth. A line connecting these two branches passes the picturesque town of Jassy.

5. *The Lower Danube.*

Of such importance to all Europe is the navigation of the Danube, that its keeping is entrusted not to the Romanians, but to a body of officials appointed by the Great Powers. No ship of war is allowed to float on the waters of the Danube below the Iron Gates. This is the name given to the part where the river forces its way between the well-wooded Transylvanian Alps (sometimes called the Southern Carpathians) and the Western Balkans. Winter in Bulgaria is far more severe than in Rumili, sheltered as it is by the steep Balkans. Only in unusually severe seasons is the Bosphorus ever frozen.

6. *Servia.*

This mountainous and well-wooded little country, about thrice as large as Yorkshire, consists of little more than the basin of the Morava, a large feeder of the Danube. Five hundred years ago, when England was of small account in Europe, Servia was a powerful kingdom, but it fell before the wave of Turkish invasion. After centuries of subjection, however, the Serbs, like other Slavonic peoples, have at length regained their freedom. Their chief city, Belgrade, on the Danube, facing the entrance of the Save, has witnessed many a stout fight between Turk and Austrian. The country abounds in mineral wealth, coal, iron, zinc, and gold, which, however, here as elsewhere, under Turkish misrule, have lain idle. Having a healthy climate, and a fruitful and varied land, the lazy Serbs, now that they are free, will perhaps at length bestir themselves to make the most of their resources. Hitherto their chief employment has been that of tending herds of swine, which browse on acorns in the woods, and when fattened are driven to market in Hungary.

7. *Montenegro.*

Austria now holds the strip of country parting Servia from the small Slavonic state of Montenegro, or the Black Mountain. It has about the area, but five times the height, of Devonshire. Its highest peak is between 9000 and 10,000 feet in height. There is much bad blood between the Montenegrins and their southern neighbours the Albanians, who hold the hilly country along the eastern shores of the Strait of Otranto, between

Bosnia and Epirus, and are somewhat unwilling subjects of Turkey.

8. *Bosnia.—Herzegovina.*

Parted from Servia by the Drina, and north of Montenegro, dwells another branch of the Slavonic people, the Bosnians, who long withstood the efforts of the Turks to seize their rocky fastnesses, and are now ruled by Austria.

A narrow strip of Dalmatia, between the eastern shores of the Adriatic and the Dinaric Alps, severs this well-wooded and fruitful district from the sea-coast. There is no town with 50,000 people in either of these Slavonic States.

We now quit the Balkan peninsula, which contains some of the fairest lands on this earth. Soil and climate give man there all that can be wished to enable him to live in health and comfort. Would that the hungry toilers in our crowded towns had some of the comforts which peace and good government could not fail to secure to the fine races dwelling in these favoured climes, these lands of milk and honey !

Before quitting what used, till quite lately, to be called Turkey in Europe, we must throw a glance on the island of Crete or Candia. It is somewhat larger than Devonshire, and has a range of high mountains running through it from east to west, crowned by Mount Ida in the middle. Though inhabited by Greeks now, as it has been for perhaps 3000 years, Crete is still under the Turkish yoke. Its hill-sides and vales are clad with vines, olives, and fruit trees.

CHAPTER XI.

SWITZERLAND.

HAVING now traversed the three southern peninsulas of Europe, we have to deal with the mountain barrier by which they are parted from Central and Northern Europe.

Rearing their steep ramparts on the east of the deep valley of the Rhone, from the sea-coast between the Lion's Gulf and that of Genoa, the Western Alps rise higher and higher as they range northward to their crowning peak, Mont Blanc. This summit, 15,784 feet above the sea, is 7000 feet above the snow-line of that climate. Eastward from the lake of Geneva the Central Alps run in two lines. On the south of the Rhone are the Pennine Alps. In these, the great St. Bernard, the bare rocks of the towering Matterhorn, too steep to wear a snow cap, and the massive Monte Rosa, stand like towers in a high rampart, frowning on the smiling valleys of Piedmont to their south. North-eastward from Monte Rosa rise the Lepontine Alps, pierced by the Simplon and St. Gothard passes, and containing the head-waters of the beautiful Lago Maggiore. East of these, again, rise the Rhoetian Alps, with the Splügen and Bernardine passes, whence fair Como draws its waters.

These are the southern ramparts of the great barrier. On the north of the Upper Rhone valley stretch the Bernese Alps, or Upperland. Confronting the Rhoetian Alps on the north of the Rhine valley, tower the Alps of Uri and Glarus, a mass of rugged peaks and huge glaciers. The St. Gothard pass, from which these knots of mountains radiate, gives direct access from the basin of the Po to the basin of the Rhine. Hence the importance of the tunnel by which a railway passes from Germany to Italy by the valleys of the Reuss and the Ticino. The northward slope of the Alps is far less abrupt than their southern. Thus Switzerland may be easily entered by the valley of the Rhone from France, or by the valley of the Rhine from Baden. From the south, on the other hand, from Piedmont or from Lombardy, the entrance is by steep and narrow mountain passes, from 6000 to 8000 feet above the sea-level.

The word Alps belongs of right not to the mountains, but to the little meadows and pastures in the hollows and ledges on their sides. As the rays of the sun in spring and summer beat more downright, and melt the snow, first of the lower, then of the higher pastures, and force the Frost-King to lift his skirts higher and higher every day, the goats and kine follow the herdsmen from pasture to pasture to a height little short of 9000 feet above the sea-level. Above that the hottest summer fails to melt the snow. As the sun loses its power, and snow rests on the higher Alps, the herdsman leads his followers to the lower Alps. Week by week, as the cold increases, the herds descend, till in the depth of winter they are housed and fed in their stalls. It is a pretty sight to see the goats of a hamlet issuing from

their several owners' hovels, in the early morn, at the call of the herdsman's horn, to follow him up the mountains, and again, when led back in the evening, of their own accord returning each to its own shed to be milked. In many parts the cheese made from goat's milk is the chief source of wealth.

The country of which we are now treating is of great interest, as showing how a sturdy race of mountaineers can maintain its freedom though surrounded by great powers. What boy's heart has not thrilled on hearing the story of William Tell bearding the haughty Austrian? More than four centuries have passed since the Swiss shook off the yoke of their foreign masters. They now form a republic, made up of twenty-two free cantons, each of which manages its own home affairs, but which in dealing with other peoples act all as one nation.

In the Canton de Vaud, from the Lake of Geneva northward to the Lake of Neuchatel, as also along the valley of the Rhone, called the Vallais, the inhabitants are of French descent; in the basin of the Ticino (Techeeno), between Mount St. Gothard and Lake Como, they are of Italian blood; and in other parts they are of German race. Nearly half of the three million Swiss are Roman Catholics; the rest are Protestants. The Swiss somewhat resemble the Scotch in pushing their way in the world by energy and self-reliance. They make their way to all parts of Europe as teachers, waiters, soldiers, or mechanics. Every Swiss child goes to school, and though their country is little more than half the size of Scotland, and far more rugged than its hilliest parts, it boasts three universities—one at Berne, the capital, another at Zurich, and a third at Basel.

A mile or two below the last named town, the Rhine, after having for about 150 miles formed the north-eastern boundary of Switzerland, quits its birthland for Baden, and becomes a navigable river. The Rhine carries the drainage of the Rhoetian Alps northward to the Lake of Constance, where it leaves behind it much of the mud ground down from the mountain sides by the ploughing of the glaciers which feed it. So, too, some of its feeders leave their mud in the lakes of Zurich and Zug, of Lucerne and Brienz, of Thun, Neuchatel, and Bienne. Other glacier-fed streams, however, pour such volumes of muddy water into the Rhine on its left bank, below the lakes, that its waters are nowhere clear.

Not so the Rhone, which is yearly lessening the length of the great lake of Geneva, by filling up its eastern end with mud brought down from its glacier sources, and which pours into France, where it issues from the lake, after being filtered for nearly fifty miles, a limpid, sky-blue stream.

The Swiss lowlands, which are still 1500 feet above the sea, stretch along the north in a south-westerly direction, from Lake Constance to the lakes of Bienne, Neuchatel, and Geneva. Above the last three lakes, watch-making finds employment for thousands of women's and children's fingers. On the west these lowlands are fringed by the pine-clad Jura, overhanging the valley of the French river Doubs. These forests, and others elsewhere on the lower hill-sides, are of great value to the Swiss, whose dwellings are mainly of wood.

Switzerland is often called the playground of Europe. Thither resort every summer thousands of tourists, especially from England, to shake off the cares of

business, or to refresh brains wearied with work or study, amid beauty of unrivalled grandeur, and bracing mountain air.

In winter the great inns to which the summer ramblers flock stand empty amid the eternal snows. Even in the valleys the Swiss winter is as much colder than ours as its summer is hotter. In the hottest weather, of course, the mountains are always cool.

The north-eastern slopes of the Rhoetian Alps are drained by the river Inn, a feeder of the mighty Danube. Following this stream we shortly quit the Swiss frontier, and enter the Tyrol, the westernmost province of Austria.

CHAPTER XII.

AUSTRO-HUNGARY.

THIS empire, with an area somewhat larger than that of Spain and Portugal, and just twice that of the British Isles, occupies the broadest, though not the steepest, part of the mountain barrier of central Europe. Most of Austro-Hungary lies in the basin of the Danube, but though stretching 800 miles east and west, it embraces neither the source nor the lower course of that great river. The Danube indeed is already a large river when it crosses the western border of Austria between the Boehmer Wald and the Alps. After traversing the empire from north-west to south-east, where it quits Hungary by the gorge of the Iron Gate with a stream more than half-a-mile broad, the Danube has yet seven noon-rings to cross before discharging its waters into the Black Sea.

The western provinces of Austria comprise the whole of the eastern and part of the central Alps between the Bavarian tableland and the plain of Lombardy. The highest peak in the Tyrol, however, falls short of 13,000 feet. Innsbrück, the chief town of that mountainous province, boasts a university, and is encompassed by a grand array of beetling crags and snowy ranges. Not less striking is the position of Salzburg,

or Salt Town, a fortified city on the western borders. Between the provinces of Salzburg and Carinthia the Noric Alps stretch eastward into Styria as far as the 14th noon-ring; south of Carinthia the Carnic Alps reach the 13th noon-ring. Thus their peaks are reddened by the rising sun an hour before the dome of St. Paul's Cathedral. South of the province of Carniola the Dinaric Alps sever the rocky sea-board of Dalmatia from the rest of the empire.

The river Save drains the southern slopes of the Carnic Alps, and joined by the Drina, which flows northward from the Black Mountain (Montenegro), forms a boundary between Servia and the Austrian province of Slavonia. The latter is parted from the plains of Hungary by the river Drave, which draws its supplies from both the Noric and the Carnic Alps. East of Belgrade the Danube itself forms the boundary between Hungary and Servia. East of the Iron Gates the Transylvanian Alps form a boundary, continued along the east by the arched eyebrow of the tree-clad Carpathians. This long range severs the sunny treeless steppes of Hungary from the bleaker plains of Galicia, which are drained eastward by the Dniester and the Pruth. From the southern slopes of the Carpathians the Theiss winds its sinuous course southward to the Danube. In 1878 the Theiss overflowed its banks, carrying away dams, and destroying farms, villages, and towns.

On the north of the great plain of Hungary, somewhat south of the Carpathians, which nowhere much exceed 5000 feet in height, the Tatra raise their granite tops to a height little short of 9000 feet.

West of these the Little Carpathians fence off the province of Moravia.

North-west of Moravia is the diamond-shaped table-land of Bohemia, and the basin of the Upper Elbe, enclosed on the south-east by the Bavarian mountains, on the north-east by the Sudetic and the Riesen or Giant Mountains, on the north-west by the Erz (Ore) Mountains, on the south-west by the Böhmer Wald. Prague, the chief town of Bohemia, is an important trading centre, and boasts a university.

Vienna or Wien, the capital of Austria, a handsome city of some 900,000, is built on the banks of the Danube not far below where it issues from the mountains to the plains.

A few miles farther the river enters Hungary, where after flowing 100 miles with an easterly course, it is forced by an outlying range of hills, called the Bakony Wald, to form an elbow, and turn southward for about 150 miles. A little below this elbow stand the twin-cities of Buda and Pesth, one on either bank, tied together by a handsome bridge, and forming the capital of Hungary. Between these cities and the valley of the Drave is the large shallow Lake Balaton, fifty miles across in dry weather, but in wet seasons overflowing the surrounding marshes. It is probably the remains of a far larger lake.

The only part of Austria which has a sea-coast, except the rocky strip of Dalmatia, is the peninsula of Istria. Here are two seaport towns of some importance—Trieste, the headquarters of a line of steam-packets, and Fiume, from which Hungary ships her wines. The Austrian naval station is at Pola, in the South of Istria.

The Eastern Alps render the transport of goods to these parts very costly and difficult. Hence Austria is not a great trading nation. She has, however, such a variety of natural products, and such a productive soil and good climate, as to be able to maintain in fair comfort a population of nearly 40 millions. Of these some ten are Germans, chiefly in the Alpine districts. Besides these there are—1. Slavonians, viz. in the north, Czechs in Bohemia, Poles in Galicia; in the south, Croats and Bulgarians between the Drave and Save, and again in Istria; 2. Magyars in Hungary and Transylvania—thought by some to be the offspring of the Huns, a race akin to the Turks, from the central plains of Asia; 3. Romanians, on the east and south-east.

The treeless steppes of Hungary and the Alpine slopes feed large herds of fine breeds of cattle. The drier pastures feed flocks of merino sheep, which supply with wool the looms of Brünn, the Moravian Bradford.

The Bohemian mountains, and those in the north of Hungary and in Carniola, are rich in mines of gold, silver, copper, lead, zinc, and nickel, and have abundance of coal wherewith to work those metals.

Styria and Carinthia abound in iron. The town of Gratz is the Austrian Birmingham. In the Carpathians rock-salt is so abundant that at Wieliczka, near Cracow, the capital of the old kingdom of Poland, galleries, halls, and a chapel have been cut out of solid rock-salt. Their white walls, glistening and sparkling by torchlight, are strangely beautiful.

The lakes and rivers of Austria abound with fish. Of the Theiss, indeed, it has been said that it is 'two-

thirds water, one-third fish.' All along the Dalmatian coast sea-fish are taken sufficient to make up for the lack of land fit for tillage.

The forests with which the Austrian hills are clothed supply wood so plentifully that the empire exports handsome chairs, tables, sideboards, cabinets, and other furniture. These forests supply the hunter with bears and wolves.

The climate of Austria is far drier and more extreme than that of England. Her winters are colder and her summers far hotter than ours. The Danube is frozen over every January. North of the Carpathians, in the latitude of the English Channel, the winters are both long and severe. In Istria the cold dry north wind, called the Bora, is very trying in spring-time. The kingdom of Hungary is united with the empire of Austria under one ruler, much as were England and Scotland under James I. Each kingdom has its Parliament, its Houses of Lords and Commons, for home government; but in dealing with other States both countries act as one nation.

The religion of the state, like that of Spain, France, and Italy, is Roman Catholic, to which Church two-thirds of the people belong. On the eastern border many are attached to the Greek Church.

The empire is well supplied with railways, many of which have been made at great outlay up and down steep mountains.

Thus a railroad starting from Venice to connect the Lombard towns of Padua, Vicenza, Verona, and Mantua, sends a northern branch up the valley of the Adige, between the Carnic and Rhoetian Alps.

Descending the wild Tyrol on their northern slopes, it sends off one branch northward to Innsbrück, another eastward between the Noric and the Carnic Alps. This road again sends off a southward branch to Trieste, and then winds north-eastward between the Styrian and the Noric Alps to Vienna. From Vienna, of course, railroads radiate to every part of the empire, as north-westward to Prague and other parts of Bohemia, northward to Prussia, south-eastward all over the plain of Hungary, southward by Agram (so sorely tried by repeated shocks of earthquake in the winter of 1880-81) to Fiume.

To Austria the world is indebted for the genius of Mozart the great composer.

CHAPTER XIII.

THE GERMAN EMPIRE.

THE Danube, in whose basin we have lingered so long, takes its rise in the Black Forest, near the intersection of the 8th east noon-ring with the 48th north day-ring. A glance at the map will show that if the great river flowed from source to mouth in a straight line its course would exceed 1000 miles.

The Black Forest, which forms the eastern boundary of the valley of the Rhine, lies in the Grand Duchy of Baden, which is about the size of Yorkshire, and is one of the most beautiful parts of Germany. From Baden the Danube flows eastward across the hilly kingdom of Würtemberg, which is about the size of Wales. There it flows at the foot of the wooded Swabian Jura, or Ranche Alps; and after washing the walls of the border fortress of Ulm, enters the tableland of Bavaria. This kingdom is about the size of Scotland, but has a larger population, and a less rugged surface. Munich, its capital, on a southern feeder, the Isar, stands 1700 feet above the sea, being, after Madrid, the highest capital in Europe. The late king adorned his capital with many fine buildings, statues, and paintings. Munich is also a great city for music.

This southernmost kingdom of the great German

empire has witnessed many a deadly fight. It was on this plateau that Marlborough won fame for England by his victories over the French at Blenheim and elsewhere, at the beginning of the eighteenth century.

The southern highlands of Bavaria share with Switzerland and the Tyrol some of the tamer beauties of lake and mountain scenery. The northern part of the kingdom is drained by the Main, which carries its waters westward. In its valley are some noted towns,—Nürnberg, the toy-shop of the world, full of houses quainter than those of Chester. This city, begirt with a double line of walls, was the first to make watches, thence called Nürnberg eggs. The trade of the city is carried on by a canal which connects the Danube with the Rhine.

Bamberg, like Munich, is noted for its beer breweries, as the light lands of Bavaria grow fine crops of barley and her clay lands good hops.

Würzburg, lower down the Main, was the chief town of the old kingdom of Franconia. Yet lower, and not far from its confluence with the Rhine, is the great trading town of Frankfort-on-the-Main, noted for its wealthy bankers. It is overshadowed on the north by the Taurus Mountains. On the left bank of the Rhine, opposite the entrance of the Main, is the strong fortress of Mainz.

The northern slopes of the Swabian Jura are drained by the Neckar, which winds amid vine-clad banks, past the fair city of Stuttgardt, the capital of Würtemberg. In this city, which has a great book trade, the poet Schiller spent his youth. The castle of Heidelberg, on the banks of the Neckar, is a noble building, nobly placed.

Confronting the Black Mountain, on the west of the Rhine, are the Vosges Mountains of Elsass. This province, peopled mainly by Germans, was seized by a French king at the beginning of last century, and was retaken by the Germans in the war of 1871.

From the west of the Vosges, the Moselle, swollen by the Saar, brings tribute to the Rhine at Coblenz (*i.e.* the Confluence), in Rhenish Prussia.

For miles below their meeting, the ruddy water of the Moselle may be seen running northward alongside the brown waters of the Rhine. The red soil on the steep banks of the Moselle grows good grape vines. Yet more famous is the wine grown on the banks of the main river, for a few miles above the entrance of the Moselle.

The banks of the Rhine, above and below this, are begirt with wooded heights, crowned with ruins of old castles. In past ages they were held by robber chiefs, who lived by plundering peaceful traders as they carried their goods up and down the great waterway.

At the large trading town of Köln, or Cologne, is the finest Gothic church or cathedral in the world. It has been six centuries abuilding, and was only completed in 1880.

Below this city signs of busy trade are everywhere to be seen. In the valley of the Ruhr, on the right bank of the Rhine, a richer coal-field than that of the Saar supports the iron-works of Essen, and the silk, wool, linen, and cotton looms of Aix, Dusseldorf, Elberfeld, and Crefeld.

As we followed the Danube upstream from its delta in Romania, piecemeal through Hungary and Austria, to

its source in South Germany, so after tracing the Rhine from its Swiss source north-westward through Germany, we must leave its mouths till we treat of Holland, through whose dykes it reaches the North Sea.

We are now in what is termed the Great Plain of Europe, which stretches from Wales and the west of France to the Ural Mountains.

The next river basin which calls for notice is that of the Weser, on whose banks is laid the scene of Browning's quaint poem, 'The Pied Piper of Hamelin.' It draws its main supplies from the Thuringer Wald and the Rhön Mountains.

Above its broad estuary is the free town of Bremen, which ships goods southward up the main stream to Central Germany, and by its feeder the Leine south-eastward to Hanover.

The Leine drains the western slopes of the Harz Mountains, the most northerly range in the German empire—mountains teeming with lodes of silver, lead, copper, and zinc.

Our next basin is the most important in Germany, that of the Elbe. Its upper valley we have already visited in Bohemia, whose chief town, Prague, stands on its main feeder, the Moldau. Issuing thence between the Giant Mountains on its right bank, and the Ore Mountains on its left, the Elbe winds among the broken hills and picturesque dales of the Saxon Switzerland.

The mineral wealth of the Erz or Ore Mountains, which form the southern border of the kingdom of Saxony, is very great. Dresden, its capital, has world-wide fame for its porcelain and its picture gallery. The

hilly pasture around feed sheep, which supply the looms of Chemnitz with the softest of wool. Freiberg attracts to its school of mines students who wish to learn the art of mining, and amid what rocks, and how to seek various minerals.

Leipzig, a large university town on a feeder of the Elbe, has one of the largest book trades in the world, and a fair which attracts traders from all parts of the world, east and west.

Lower down the Elbe stands the large manufacturing town of Magdeburg. At the head of the estuary stands the large town of Hamburg, which, like Bremen on the Weser, and Lubeck to its north-east, has been for many ages a free trading city and republic. These three towns, with some eighty others, leagued themselves together in the thirteenth century, as the Hanse towns, to carry on trade and protect each other against all princes who might attempt to hinder or despoil them.

Most of the German trade and shipping now centres in Hamburg and Bremen. Here are shipbuilding yards, sugar refineries, tobacco depôts, and cotton factories. From these ports go forth yearly streams of emigrants, quitting the sandy wastes of their overcrowded, over-taxed fatherland for the virgin soil of America. In that free land the simple German peasant plods away at his farming, without having to pass three of the best years of his life as a soldier, or being liable at any time to be called to arms to fight at his master's bidding against his French, Austrian, or Russian neighbours.

The ruling state of the North German Empire is Prussia, whose king is also Emperor of Germany. At

his bidding, Bavaria, Saxony, Württemberg, Baden, and the other grand duchies and principalities into which Germany is split, all send forth troops to make one great army for the defence of fatherland. The whole area of the states thus banded together for mutual support is slightly larger than that of France, with a population of 42 millions.

The kingdom of Prussia, now that it embraces Hanover, of which our sovereign's forefathers were kings, and of Schleswig-Holstein, from which most of our English forefathers came over the sea, stretches along the seaboard from the Dutch to the Russian frontier, from the south-eastern shores of the North Sea to the south-eastern shores of the Baltic.

Its capital, Berlin, on the Spree, is so placed that by canals joining the Oder to the Elbe it commands the traffics of the North Sea and the Baltic. Hence also, though built on a sandy plain, Berlin is able to draw supplies for its million citizens from the heart of Germany. Thus, too, it is able to carry on cotton, linen, iron, and pottery manufactures. For the Oder, on one of whose feeders it stands, drains the north-western slopes of the Giant and the Sudetic Mountains and the whole of Silesia.

Breslau, the capital of this south-easternmost province of Prussia, and the second town in the kingdom, is the centre of important mining districts and coal-fields, which, by means of the Oder, are able to ship off their wares cheaply.

The summer heat in the upper valley of the Oder suffices for the growth of tobacco.

Lower down the river, some fifty miles east of Berlin,

stands Frankfort, which, like its western namesake on the Main, is a great trade centre, and has a fair much frequented by foreign merchants.

North of Frankfort the Wartha pours into the main stream a nearly equal volume of water gathered from the plains of Poland. Posen, on the Wartha, is the strongest fortress near the Russian frontier.

The port which serves as outlet for the traffic of the Oder is Stettin, built where the estuary broadens out to a lake or landlocked haven.

There are two other very similar lagoons on the Baltic shores farther east—one in the Gulf of Dantzig at the mouth of the Pregel, the other near the eastern frontier, entered by passing the port of Memel. At the mouth of the Pregel stands the port of Königsberg or King's Hill, whose name recalls our King's Lynn at the mouth of the Great Ouse. Altona, on the Elbe, close to Hamburg, and Stralsund, facing the island of Rügen, are also important Prussian ports.

Another of great importance is Dantzig, at the mouth of the Vistula, which drains the northern slopes of the Carpathians through the plains of Poland. Between the Vistula and the Elbe is a marked difference of climate. Swallows reach the latter a month before they visit the eastern stream. Only in severe winters does ice ever block the latter, and then only for a few weeks ; whereas the mouth of the Vistula is always sealed for three months, from December to March.

Berlin and Birmingham have the same latitude or day-ring—that is, are exactly the same distance from the equator or from the North Pole ; yet in Berlin every winter the cabs exchange their wheels for runners,

and are used as sleighs. But if the winter cold be ten degrees harder, the summer heat of Berlin is ten degrees hotter than that of London. The rainfall of the two capitals is about the same. In Germany, as in Britain, west winds prevail, save in the spring, when easterly winds blow thence to our island.

The climate of Southern Germany, owing to its height above the sea, differs little from that of Northern Germany. The slope of the country is, as the rivers show, slightly to the west of north. From the most northerly to the most southerly part of the Empire is 500 miles; from east to west is the same distance.

Germany, as compared with France, is a poor country. Having no natural boundaries east or west, she deems herself forced to waste much of her sons' time and toil on military drill, so as to have an army large enough to protect her land from all possible assailants. Her soil is not nearly so fertile nor her climate so agreeable as that of her western neighbour. She has, however, greater mineral wealth. The shores of the Baltic abound in amber.

The Germans, it need hardly be said, are by race akin to us English. Both come from the same stock, though we have a far greater admixture of other blood.

To the Germans men are indebted for much deep thought on the highest matters, especially on religious questions. There are no fewer than 21 universities in the land. In North Germany the people are mostly Protestants; in South Germany there is a greater proportion of Roman Catholics. For many

years more attention has been paid to education in Prussia than in any other country in the world.

The main crops of the country are rye, oats, wheat, and potatoes.

We must not quit Germany without remembering that the tribes which swarmed over and settled in Britain in the fifth century dwelt mostly in Friesland, the valleys of the Ems, Weser, and Elbe, and Schleswig-Holstein.

CHAPTER XIV.

THE NETHERLANDS.

I. *Holland.*

AFTER wandering over the vast plains of Hungary and Germany, it is almost a relief to come to homely Holland. On an area barely larger than that of our six northern counties, and of which nearly half is saved, only by watchful skill and at great cost, from being overflowed by the North Sea at every high tide, Holland supports nearly 4 million people.

Fifty miles of threefold pile-walls, filled up with earth and flanked by granite blocks, guard her soil from the rush of the waves. Thus only has been rescued from the sea the rich soil brought down from the mountains by the rivers Rhine and Maas, of whose deltas the south of Holland mainly consists.

The area of North Holland was much lessened in the seventeenth century by the sea bursting into the low ground, where for many hundred years had been a lake, and forming the Zuyder (or Southern) Sea. The old outline of the coast may still be traced along the chain of islands to its west. The enterprising Dutch have lately resolved to retake the ground thus filched from

them by the waves, just as some years ago they drained a lake half as large as Rutland.

The whole of Holland is seamed by a network of canals, which are planted with rows of trees. Of these canals, the largest admits sea-going ships through the whole forty miles of North Holland to Amsterdam—a large city built on piles, with canals for streets.

In wandering about Holland one sees no hills or heights ; the only objects above the flat meadows are the masts of ships and the windmills used for pumping up water over the dykes which keep out the sea.

A people maintaining its very soil against such difficulties must needs be, as the Dutch are, thrifty and brave.

In cleanness they put to shame every other people.

There are no forests in the country, but huge rafts of timber are floated down the Rhine for use in their hundreds of shipbuilding yards. These rafts are of enormous length, and so securely are their bulks of timber lashed together that many men live for weeks in huts on their surface, whose business it is to guide them safely down stream. Other timber is easily got from Norway.

The Dutch summer, like the German, is hotter than ours, and their winters are as much colder. Having, as a rule, all their canals ice-bound for ten weeks, the Dutch are good skaters. Even the women skate to market, balancing heavy loads on their heads.

The climate of Holland is nearly as variable as that of England, but damper and more subject to thick fogs.

The Rhine passes through the country by many

branches, of which the chief joins the Maas, or Meuse, before entering the sea.

In our wanderings over our South African and Australian colonies and elsewhere, we have seen that Dutch seamen and traders visited many ports of the East and South long before British enterprise began. They ousted the Portuguese from the East Indies, and have been for many ages great traders in spices, coffee, cotton, india-rubber, and other Eastern produce. Hence sugar refineries have sprung up at most of their great ports, as Rotterdam, Amsterdam, Dordrecht, and Schiedam.

The last named town on the Maas has given its name to the spirit sometimes called Hollands gin, which there employs upwards of 200 distilleries. Amsterdam is famed for its skill in cutting diamonds. Holland sends us butter and cheese, and millions of bulbs, as tulips, crocus, hyacinths, and others. Many of her fishing boats help to supply the London market with herring and cod caught in the North Sea.

The king of Holland holds court at the Hague.

2. Belgium.

South of his domains lies the smaller but more densely-peopled kingdom of Belgium, which consists chiefly of the basins of the Scheldt and the Meuse. In the latter are two great and rich coal-fields. Hence Belgium is able to support $5\frac{1}{2}$ millions on an area little exceeding the basin of the Humber.

The Belgians are not as purely German as the Dutch.

The Walloons, in the south, are the offspring of Roman settlers, and are therefore akin to their western Gallic or French neighbours. The word Walloon, recalling our Wales and Welsh, meaning 'strangers,' was given by the Germans.

Most of the Belgians cling to the Church of Rome, whereas most of the Dutch are sturdy Protestants.

In the fortified city of Antwerp they have a port whose position, far up a navigable estuary, somewhat resembles London. Their capital is the gay city of Brussels—a little Paris.

Along the south-east the forest of Ardennes lifts its tableland to a height of 2000 feet, and sheds its drainage westward to the Meuse. This river and its feeder, the Sambre, both navigable, are joined to the Scheldt by the Campine Canal, across a sandy heath on the northern border.

Liège, on account of its manufacture of firearms, is sometimes called the Belgian Birmingham. Namur, Charleroi, and Mons, in the same valley, share its iron trade.

The valley of the Scheldt is famous rather for soft-ware than for hardware, as Gand and Bruges for linen and cotton, Tournay for carpets, Brussels and Malines for lace. All these towns, as also Antwerp and the university town of Louvain, are famed for their quaint and beautiful old buildings, and for many priceless paintings.

On the high ground between the basins of the Meuse and the Scheldt are the battle-fields of Waterloo, Quatre Bras, and Ligny.

3. *Luxembourg.*

This Duchy, about as large as Dorset, and drained by the Moselle, is ruled by the king of Holland. No army is allowed to enter this little state, which thus serves as a buffer to stave off the shock of battle from Belgium when French and Germans clash.

CHAPTER XV.

DENMARK.

To Denmark belongs Jutland, the only peninsula of any size in Europe which projects northwards, thrust out from the mainland as though to form a breakwater between the North Sea and the Baltic. It is as low and flat as the other European peninsulas are rugged and high.

The sandy dunes of the western, by sailors called the 'iron', coast of Jutland, offer neither harbours nor anchorage, and are washed by a shallow sea. The extreme north is islanded by a narrow inlet so shallow that only flat-bottomed boats are there used.

From the eastern coast of Scotland, a vessel sailing due east across the North Sea for the chief Danish port would pass through the 'crooked boisterous strait' called Skager Rack. After rounding the Skawe, amid boats fishing for flounders, the ship would turn southward through the Cat's Throat, towards two groups of islands between Gothland and Jutland, which block the entrance to the Baltic. These two groups leave three straits—the Sound, on the east of the Zealand group; the Great Belt, between that and the Fünen group; and the Little Belt, between that and Jutland.

From these two belts the Baltic takes its name. The

white chalk cliffs along these straits recall the cliffs of Eastbourne, Dover, Hunstanton, and Flamborough.

After passing the forts near Elsinore, our ship would be in the main highway, the Sound, and find good anchorage in the roads facing the Danish capital, Copenhagen (*i.e.* Trader's Haven). It may serve to aid the memory if we note that Copenhagen, Venice, Rome, and Marsala, have noon nearly at the same minute.

Landing to visit the country, we should find growing very much such crops of corn, etc., as we are wont to see in our own islands. In summer we should find it hotter, in winter colder, than at home.

Every winter the Baltic is frozen. In severe winters carts pass over the ice between Denmark and Sweden. The fishermen living on the west of Jutland, however, can ply their trade all the year round, as on the west of Scotland.

In the Baltic great numbers of herrings, seals, and porpoises are taken, the two last entering the Baltic in pursuit of the first.

The home country of Denmark, which is about half as large as Scotland, must always be of interest to us, because many of our forefathers sailed thence to our shores in the fifth and following centuries. The Jutes still speak a tongue akin to ours, and are of the same stock which peopled Kent. The modern Danes, however, have betaken themselves to peaceful habits—as herdsmen, shepherds, tillers of the soil, and fishers. They are not, like their English cousins, great traders. They weave their own wool for their clothes, and make their own wooden shoes.

To the king of Denmark belongs the government

of the Faroe Islands, a group lying about half-way between Cape Wrath and Iceland. These treeless, hilly, wind-swept isles are grazed by sheep and half-wild ponies, and tenanted by hardy Norsemen, who risk their lives in climbing crags after sea-birds' eggs and feathers, catching cod, or hunting shoals of whales. Black jagged cliffs, like those on the north-east coast of Ireland, frown on the narrow channels between the islands, through which the Atlantic tides rush like mill-streams.

Iceland.

To Denmark belongs also the charge of this second largest of European islands, which has the same area as Newfoundland. Iceland lies just on the border of the Arctic Circle, and so far to the west as to have noon an hour behind Great Britain. On the northernmost shore of this barren, mountainous land, for a few days at midsummer the sun never sets, as for a few days at mid-winter it never rises.

Lying not merely in a high latitude, but most of it more than 2000 feet above the sea, the greater part of the island is covered, as its name implies, with ice and snow all the year round. In the south-east the peak of Oræfa towers to a height of 6429 feet. At 3000 feet in that latitude snow never melts. Extremes of cold and heat meet in Iceland, for besides its huge ice-fields or glaciers (called jökulls), Iceland has a large part of its surface covered with beds of lava, which have been poured forth during many ages by burning mountains.

The active volcano of Hekla, in the south-west, towers to a height of 5091 feet.

Between the north-east and south-west coasts, too, there is a marked contrast. The former, swept by the cold current which drifts past East Greenland, has its deep inlets often blocked with ice ; while the latter, like the western shores of Britain, is lapped by the warm Atlantic current. Hence, in the south of the island, the nine months' winter is not severe, as is the case on the mainland to its west.

In spring the men betake themselves to cod fisheries on the banks off the south coast. Many seals and eider ducks, too, are taken all round the island. The long winter evenings are beguiled by knitting stockings and gloves. For warmth the islanders depend on a brown coal found beneath the lava-beds, and drift-wood floated by the ice from the mouths of the great Siberian rivers.

Tourists now and then visit Iceland during its short summer, some to see the geysers, or hot springs, which, after lying quiet, suddenly spout forth to a great height fountains of boiling water ; some to fish in the mountain torrents by which the island is seamed, or in the deep lakes found here and there in the hollows of the hills.

The general aspect of the country is unspeakably dreary. The chance of crops ripening is so slight that the natives find it cheaper to buy their bread-stuffs from happier climes, and to devote their time and toil to sheep-rearing and to breeding cattle.

Amid hardships and poverty, the Icelanders are honest, thrifty, and cheerful. They all read and write—no mean resource in so untoward a climate.

Reykjavik, the capital, on the south-west corner, has fewer townsmen than many a large village in England.

CHAPTER XVI.

SCANDINAVIA.

NORTH of Denmark stretches this largest of the European peninsulas. Having between them an area of 294,000 square miles, Norway and Sweden form a kingdom somewhat larger than the Austro-Hungarian empire. From north to south the peninsula stretches 1200 miles, just twice the utmost length of Britain; from east to west its greatest breadth is 450 miles.

The coast of Norway, like that of Iceland, is cleft with deep inlets called fiords, and begirt with hundreds of rocky islets. So steep and high are the cliffs enclosing these inlets, and so near at hand tower the pine-clad and snow-capped mountains, that most of the fiords present the appearance of lakes. The longest of these, the Logne Fiord, runs 100 miles eastward into the land, and receives a huge waterfall. The Norwegian mountains, which line the west coast, show the same rocks as our Welsh, Scotch, and Cumbrian hills. Their highest summit falls short of 9000 feet, while their name, 'field,' speaks them flat-topped rather than saw-edged. These mountains form, as it were, a beading to the great plain of Northern Europe, which stretches eastward from their feet across the Gulf of Bothnia to the Ural Mountains. Many of them send

their glaciers down to the edge of the coast cliffs, and thence discharge mighty cascades into the sea.

One of the most striking things in regard to Scandinavia is, that whereas the Baltic is frozen during the winter months, and every port east of Christiania, the capital of Norway, sealed with ice, the fiords of the west coast, even so far as the North Cape and the Varanger Fiord, more than four degrees north of the Arctic Circle, are open all the year round. This is due to the Atlantic current swept northward by the prevailing south-westerly winds, to which we owe our moist and temperate climate.

The quantity of fresh water poured across Sweden into the shallow Baltic, from the eastern slope of the Norwegian hills, the northward slope of Germany, and the westward slope of Finland, causes an outflow through the Skager Rack into the North Sea. Hence the Gulf Stream does not penetrate the Baltic, which, being a shallow sheet of water comparatively fresh, readily freezes. In summer, on the other hand, Sweden is so much hotter than Norway, that on the eastern slopes the snow melts at a far greater height than on the west; and the height at which trees cease to grow is higher on the east than on the west of the hills.

The eastern shores of Sweden differ from the lofty and rugged coast-line of Norway in being mainly sandy and flat, and little indented. The countless streams which pour down from the western mountains bring thither the waste of their beds.

These beds are so rocky and broken that Sweden has no good navigable rivers. Her most valuable waterway is that of the Trolhätta Canal. This canal, cut

through granite rocks by Telford, the great English engineer, opens a way for vessels from the Kattegat up the Göta, across Lake Wener (a sheet of water as large as Norfolk), thence by Lake Wetter to the Baltic. The smaller lake is 70 miles long, and is hemmed in by high crags. This canal enables vessels to rise 300 feet above the sea-level.

South of this canal is Lake Mälar, 81 miles long, but only 6 feet above the Baltic. At its eastern exit stands Stockholm, the capital of Sweden.

The navigation of all three lakes offers great difficulties and dangers.

The Swedish rivers, though useless for navigation, enable timber felled on their banks to be floated down seaward. For Sweden is a land of forests, especially of pines and firs.

North of the 61st day-ring, as a rule, attempts are seldom made to grow crops even in the lowlands. South of this, however, good grain crops are raised, not merely for home use, but also to be sent abroad. Malmö, a seaport on the extreme south, is the centre of this trade.

Another main source of wealth to Sweden arises from her numerous iron mines. Swedish magnetic ore, being smelted with wood, makes better steel than our iron smelted with coal. Silver and copper ore are also plentiful not far from Stockholm.

In all this vast country there are little more than six million people, mostly of German blood, akin to ourselves, and speaking a kindred tongue. In the far north roam a few Lapps, short, thick-set, yellow-skinned folk, akin to the race which peoples Northern and Eastern Asia.

The chief employments of the Norwegians are cattle-rearing on the hills, farming in the south and in the deep valleys, and along the coasts fishing, especially for herrings.

The Lofoten Isles, in the north, are the centre of a great cod-fishery. As timber abounds, most of their houses, bridges, churches, and other buildings are made of wood. Birch twigs serve as fodder for the stall-fed cattle in winter.

The only town of any size in Norway except the capital, Christiania, is the trading town of Bergen.

The Swedes add mining and foresting to farm work, and have some cotton and wool spinning factories, worked by water-power, of which there is no lack. Their only large town, besides Stockholm, the capital, is Göteborg, on the Kattegat.

The fortified seaport of Karlskrona, on the south coast, is their naval station and arsenal.

The government of the country resembles our own. Its religion is mainly Protestant, and children are all sent to school.

The beauty of the Norwegian fiords, with their waterfalls, glaciers, and pine-clad, snow-capped mountains, all to be seen close at hand from the decks of vessels; the strangeness of seeing the sun wheeling round the sky without setting to the North Cape for ten weeks in May, June, July; and the abundance of trout and salmon in the rivers,—form attractions to the wealthy to visit the coasts of Norway every summer.

CHAPTER XVII.

RUSSIA.

THOUGH we have now visited so many kingdoms and states as to have left but one country in Europe untouched, we have not as yet traversed half of Europe. For Russia, the remaining state, covers as much more than half of Europe as would make another country as large as France. European Russia, indeed, might be carved into ten tracts larger than France, and into about twenty-five as large as Great Britain. Even this vast tract is little more than a quarter of the whole Russian empire, which covers more ground than even the British empire, though it has nothing like the number of subjects. In the whole 2,200,000 square miles of Russia in Europe live only 72 million people. Hence every Russian has ten times as much ground as each Englishman, and five times as much as a Frenchman.

About four-fifths of all the inhabitants are of that Slavonic race which we have already encountered both in the north and south of Austria, and in Bulgaria. They are usually men of a heavy build, with sandy or reddish hair.

A glance at the map shows us that European Russia is one vast plain, stretching 1700 miles north and south from the Arctic Ocean to the Black Sea and the

Caspian, and 1400 east and west from the Baltic to the Ural Mountains. This vast plain is the granary and forest land of Europe, and is well supplied with a network of slow, broad streams, by which its grain and timber are sent to any of the surrounding seas, especially the Baltic and Black Sea.

In all this vast plain, varied by woodlands and corn-fields and marshes, the only hills are the forest-clad Valdai, the cradle of Europe's longest river, the Volga, and they but slightly exceed 1000 feet in height. The Volga gives direct access to the inland Caspian, and thus enables European Russia to exchange goods with Persia.

A canal joining its northern feeder, the Kama, to the Dvina, enables barges to pass by the Volga between the Caspian and the White Seas, to convey goods between the ports of Astrakhan and Archangel. On the west, canals joining the Volga to the Duna and the Neva, enable traffic to reach the Baltic, and goods from the heart of Russia and the Ural Mountains to be delivered to sea-going ships at Riga, Revel, and St. Petersburg. Other canals connect the Volga and the Duna with the Don and the Dnieper. In the extreme west, again, the Niemen is tied to the Dnieper, and the Vistula to the Dniester, thus making complete waterways between the Caspian, the Baltic, the Black Sea, and the White. It should be noted, however, that for many weeks every winter these waterways are ice-bound, and that none of them have tideways to stem their streams, and float vessels inland from the sea, as is the case twice a day in the Thames, the Loire, the Elbe, the Rhine, and the Meuse.

The largest of the main divisions of this vast plain, Great Russia, or Muscovy, includes the north and centre. The old capital of this the mother country of 'all the Russias' is the quaint, ill-built city of Moscow, which lies on the same day-ring as Edinburgh, but sees the sun shine on the Kremlin, its citadel, two and a half hours before its rays gild the old castle of the Scottish capital. The northern border of the country, called the Tundras, on the shores of the icy Arctic Ocean, is a moss-clad, frozen swamp, which the hottest rays of summer fail to thaw for more than a yard below the surface.

On the north-west of Great Russia, between it and the Gulf of Bothnia, is the lake-studded, granite tableland of Finland, which is governed by the Emperor of Russia as Grand Duke of Finland—some-what as Hungary is ruled by the Emperor of Austria as King of Hungary. Of the thousands of lakes in Finland the largest is Lake Ladöga, the largest in Europe. Into this lake flows the Neva northward from the Valdai Hills, there to mingle with the overflow of another great lake, Onëga. Issuing from the south-west corner of Ladoga, the Neva, before entering the Baltic, washes the piles on which rest the palaces and the unrivalled quays and bridges of St. Petersburg, the modern capital of Russia. Standing in the latitude of the Shetlands, this gay city has a terribly long and cold winter. The houses, however, are well heated with stoves, and armed with double windows, while its citizens walk or drive abroad well wrapped in furs or sheepskins. The Russian will issue straight from a hot vapour bath and roll in snow to brace his nerves. From

her long dreary winters Russia reaps one advantage, —though her ports and rivers are then ice-bound, the snow with which her level and hedgeless surface is clad allows sledges to be driven freely for thousands of miles over marshland impassable in summer. Of this we shall hear more when we come to treat of her vast tracts on the east of the long belt of the Ural Hills.

North of Finmark live the Lapps, so familiar to every schoolboy on account of the herds of reindeer which supply them with milk, draw their sledges, and furnish them with meat, leather, and skins for clothing. The Lapps, like the Finns, belong to the Mongolian race, of which we have hitherto seen little, but shall in future pages have much to say.

South of the Baltic Provinces, in the basins of the Niemen and the Vistula, live the White Russians and the Poles. The city of Warsaw, the capital of Russian Poland, is as large as Bristol, and is an important trade centre. Great timber-rafts and corn-barges descend the Vistula during the summer months from Poland to the Baltic.

The province of Little Russia, sometimes called the Ukraine, *i.e.* Marches or Border-land, a name given it by the Poles when the kingdom of Poland formed the bulwark of Western Europe against the encroachment of the Turks and other Eastern invaders, has the best wheat land. The Dnieper conveys the grain-barges to the Black Sea. The dwellers here are called Red Russians. Kief, the chief town of the Ukraine, is a strong fortress. South Russia, along the northern shores of the Black Sea, is almost entirely a level treeless plain called Steppes. Between the mouths of the Dniester and the

Dnieper are the naval station of Nikolaïef, at the mouth of the bay, and the great corn mart of Odessa.

In the year 1854-55 the Crimean peninsula was the scene of much bloodshed, heroism, and suffering, caused by a combined French and English host besieging the strongly fortified city of Sevastopol. The dwellers in the Crimea and the steppes of East Russia, in the valley of the Volga from Kazan to Astrakhan, are Tartars. Of these the Kalmucks are short, sturdy, swarthy horsemen, with flat noses and eyes set aslant.

With these must not be confounded the Kassaks or Cossacks of the Don valley, wild lancers, whose shaggy ponies figure so much in Russian armies, and who are of Slavonic race. To their chief ports, Taganrog and Rostov, on the Sea of Azov, is brought for exportation the spare produce of the great basin of the Don. Here flourishes the vine, for though the winters are colder the summers are far hotter than in England. In winter the treeless steppes of this south-eastern part of European Russia are swept by icy blasts; in spring the rains call up grass high enough to hide the countless flocks of sheep and herds of kine and horses, by which they are then grazed. During the scorching heat of summer the grass is again burnt up. Rain, indeed, is the great want of the steppes.

Over the salt and sandy flats between the Black Sea and the Caspian, the floor of a sea now dried up, roving Kirghiz tribes feed their herds of camels on prickly shrubs and salt worts.

Nearly half Russia is still covered with forests, the haunts of wolves, bears, martens, foxes, sables, and other fur-clad animals. The pursuit of these in the

winter-time, when their skins are thickest, and therefore most valuable, is a source of wealth to hundreds of trappers. Herds of swine, fed in the forests, supply the Russians with pork and bacon, and foreign countries with pig bristles.

To the fisherman the rivers give large supplies of good fish, as salmon, sterlet, and sturgeon. The roe of the latter (caviare) is salted, and sold in great quantities at Astrakhan. The Black Sea and that of Azov supply anchovies and tunnies.

For the miner there is employment in the Ural belt, rich in gold, silver, copper, iron, lead, platinum, and precious stones. Here and there coal is worked, though not enough to make Russia a great manufacturing country. Moscow and St. Petersburg have silk and cotton factories. In the latter city, as also in Poland, are iron works. In all parts of the country coarse linen is made of home-grown flax and hemp. But the main wealth of Russia consists in her wheat, timber, tallow, leather, and bristles. With these she buys from Western Europe manufactured goods. With the latter she supplies the heart of Asia, inaccessible to the ships of the Western nations, and buys, among other things, the best tea that grows in China.

At the confluence of the Oka with the Volga, somewhat to the east of Moscow, stands Nizni-Novgorod, noted all over Asia for its great fair at the end of summer. Thither flock some 200,000 traders from every Eastern inland nation, to barter for the produce of the West, exchanging furs, silks, teas, prints, woollens, and other goods. In the winter, again, the great wool fair of Kharkof, in the Ukraine, tempt tens of thousands of

sledges to brave packs of hungry wolves and other dangers and hardships.

The boundary between Europe and Asia on the south-east is the natural barrier of the Caucasus, whose loftiest summits, Elburz and Kasbek, are far higher than the highest Alpine peaks. Owing to the dryness of the air in these parts, and the lack of snow, the glaciers and snow-fields of this range are of small size. In its general features the range of the Caucasus resembles that of the Pyrenees. It is a single chain, such that the same summit may be seen both from the level steppes on its north and from the deep gorges and valleys on its south.

The Caucasus is often spoken of as the cradle of the Aryan race, which has peopled Europe and the north of India. At present the dwellers on both slopes are of very mixed race. Some of the mountaineers have well-built frames and handsome features. The Circassian women are noted for their beauty. For many ages the children of the wealthier Turks have had Circassian mothers.

Having such an abundance of timber forests, the Russians build their cottages mainly of wood. Hence the burning of a whole village is not very uncommon. In the houses of the well-to-do huge stoves keep up an even warmth in every part. There is not, as in most English homes in severe weather, a warm fireside with cold passages to be crossed. By making his windows and walls *double*, so as to secure a casing of stagnant air all around his dwelling, the Russian is able to keep his whole house evenly warm. Hence he goes out warm and well wrapped into the piercing cold, and does

not feel its effects so keenly as we feel severe frost in our draughty dwellings.

In the huts of the poorer the poultry are penned in the same room with the family ; the pigs in the outer casing. The smoke of their wood fires has to make its way out as best it can.

The Russian prepares his stock of meat when winter begins. As soon as slaughtered, the animals are at once frozen, and so remain till spring-time.

Most of the Russians are members of the Greek Church. Of the Poles, many cling to the Church of Rome.

Having been but lately set free from serfdom, the Russians are far behind their Western neighbours in regard to education and general enlightenment. In a large German force some few years ago two soldiers were found unable to read and write. They had escaped schooling by having been born on one of those great timber-rafts which are floated down the Rhine every summer. In a Russian force at present more would be found unable than able to read and write. Down to the year 1863, the peasants were attached to the owners of the soil, bound to work for them all the year round ; now, however, they work for wages like other workmen in other lands, and have schools to which to send their children.

Bidding farewell to Europe, we now cross the borders into Asia, there to meet old friends again, for the greater part of both the Russian and the Turkish empires is beyond the limits of Europe. These two powers between them hold the whole borderland from the Arctic Ocean to the Red Sea.

CHAPTER XVIII.

ASIA.

I. *Outline.*

BEFORE entering into any details of the various lands held by the various peoples of Asia, it may be well to take a general view of its outline and surface.

As regards the former, it has already been noted that Asia has far less coast-line in proportion to its vast length and breadth than Europe. On the north this lack of openings is of less account, because for only a few weeks in July and August are the shores of the Arctic Ocean sufficiently clear from ice to allow ships to coast freely along. Quite lately it has been found that after midsummer ships from Europe can hope to make their way with profit round North Cape, eastward along the 70° parallel, between the south of the Novaya - Zemlia islands and the mouth of the Petchora; thence northward through the Kara Sea, and southward up the mighty Siberian rivers Ob and Yenisei. The gallant Swedish explorers who opened this route, after doubling Cape Chelyuskin, less than 800 miles south of the North Pole, made their way to the still mightier river Lena. After passing a whole dreary winter locked in ice, they made their way still

eastward, doubled East Cape, passed through Behring Strait, coasted the eastern shores of Asia, calling at Japan and China on their way southward to the Indian Ocean. Thence they returned home by the Red Sea, Suez Canal, Mediterranean, Bay of Biscay, English Channel, and North Sea, having thus sailed completely round the vast tract which we have agreed to call Eurasia. Were the northern coast of Asia ten degrees farther from the North Pole, its three mighty rivers would be open for the greater part of the year, and the northern plains of Asia would teem with countless hordes of mankind.

In following the course of the Swedish explorers along the eastern coast, we cannot fail to have noticed the increasing advantages offered by its inlets as we go farther south. The first large opening, the Sea of Okhotsk, being encircled by a mountainous coast, and having a rigorous climate, is of little use to traders. The Russians have a naval station at Petropaulovski, on the peninsula of Kamtchatka, to guard their commerce with China and Japan ; but the peaceful merchant has not as yet found it profitable to visit these chilly shores. In time, however, the river Amur, up which ships can steam for 2500 miles, may become a great highway of trade. South of its mouth the mountains are so close to the sea that there is no important opening in the shores of the mainland facing the islands of Japan ; but those islands have many excellent harbours. Sheltered from the east by the peninsula of Corea, the Yellow Sea offers two deep inlets. A few hundred miles farther south the mighty river Yang-tse-Kiang admits large ocean steamers 700

miles inland, and river steamers 1200 miles, while smaller craft may be towed up stream 1000 miles farther still.

Other good inlets are supplied by the Si-kiang (Canton) river farther south, by the Me-Khong draining Cambodia, the Me-nam draining Siam, the Irawadi from Burmah, the Ganges, and other rivers of India.

But when we reach the great Arabian peninsula, we are once more confronted by a cliff-bound coast, reminding us of the forbidding shores of Africa.

Into the Persian Gulf, however, flow twin rivers, draining lands which thousand of years ago were the seat of the mighty empires of Nineveh and Babylon, and twelve centuries ago of the still wider Arabian empire. These lands are now barren, because no longer watered by canals. The time may come when under more settled rule human toil and skill will again rescue their valleys from desolation, and supply traffic to the Persian Gulf.

Then will the western shores of Syria and Asia Minor once more teem with active life, and the last state of those lands will surpass their glories in days of old.

2. Surface.

Having thus coasted round Asia, and seen more clearly than before that Europe is only a great western peninsula of the largest tract of land on the earth, let us briefly glance at its surface.

It may be well to fancy ourselves in a balloon, hanging over a spot somewhat north of the Hindu

Koh (or Kush), at the intersection of the 39th parallel with the 72d meridian.

This is the central knot from which the great mountain chains radiate east and west. These mountain chains are the outer edges—the borders and buttresses—of a vast tableland spreading eastward for 6000 miles from the shores of the Red and Mediterranean Seas to the shores of the North Pacific. Its eastern fringe has a breadth of 2000 miles. At the Hindu Koh, which is 18,000 feet high, the plateau is narrowed to a breadth of 700 miles, parting the lowlands of Turkistan and Hindusthan.

West of this knot, the plateau of Airan, with an area of more than 600,000 square miles, lies from 4000 to 7000 feet above the sea. The eastern plateau, with an area of nearly 8,000,000 square miles, lies from 4000 to 17,000 feet above the sea.

The steppe-land of Pamir, over which we are poised, is called by the dwellers there 'the roof of the world,' because whichever way they travel thence they find themselves going down hill. Not, of course, that there are not higher *peaks*, but that no large tract of land lies so high.

The southern edge of the plateau is fringed by the giants of the Himalayas, with which we are already familiar as the northern boundary of Hindusthan, and as containing in Mount Everest the loftiest peak in Asia. North of these, in a more easterly direction, run the Karakoram and Kuen Lun ranges. The latter forms the northern edge of the great plateau of Tibet, most of which lies 13,000 and some 17,000 feet above the sea-level.

In a north-easterly direction from the Pamir steppe may be traced a succession of high ranges for thousands of miles, as far as East Cape on the shores of Behring Strait. These form the northern edge of the eastern plateau, and bear different names in different parts. The most westerly portion, called Thian Shan, forms the northern, as the Kuen Lun forms the southern edge of Eastern Turkistan. This district is termed 'continental,' because whatever rain falls there, instead of finding its way to the sea, is lost in the sandy soil, or again sucked up by the air. Yet farther east stretches the great desert of Gobi. Such streams as flow into it southward from the Altäi, or northward from the Nan Shan Mountains, find their way into lakes which have no outlet, and most of which are brackish or salt.

From the northern slopes of the Thian Shan, through a gap between them and the Altäi, the river Irtysh carries the drainage northward across Siberia to the Ob, a river 2700 miles in length. From the Altäi, the yet longer Yenisei follows a course almost parallel to that of the Irtysh. Still farther east, the Yablonoi Mountains discharge their drainage north-eastward by the Lena, and eastward by the Amur.

Farther east, the Nan Shan Mountains are continued by the Nan Ling Mountains, which form the southern watershed of the Yang-tse-Kiang; and the Peling Mountains, which fringe the north of its basin, and whose northern slopes are drained by the Hoangho or Yellow River. The water-parting between this river and the Amur is formed by the Khingan Mountains, a chain running north and south, like the Sulaiman and the Ghats.

Returning to our station north of the Hindu Koh, and directing our gaze to the south-west, we scan the high plateaux of Afghanistan and Biluchistan, bounded on the east by the Sulaiman range. The northern edge of the western tableland is formed by a chain of heights between the south of Western Turkistan and the northern borders of Persia, connecting the Hindu Koh with the Elburz range, which encircles the southern shores of the Caspian Sea. The highest summit of this range, Mount Demavend, exceeds 18,000 feet in height. Westward the range is continued by Mount Ararat and the other highlands of Armenia, and then broadens out into the high tableland of Asia Minor, propped on the south-east by the Taurus range.

South-eastward from Mount Ararat, the mountains of Kurdistan complete the severance of the Persian highlands from the great valley of Mesopotamia. This name, meaning 'mid-rivers,' recalls the Doábs of the Panjáb. Beyond this once fertile valley rises the tableland of Arabia—the Spain of Asia. The whole coast of this vast peninsula is fringed by high bare rocks, forbidding all access from the Persian Gulf, the Arabian or the Red Seas.

At the head of the latter stands the hilly peninsula of Sinai, now called El Tih, where the sons of Israel dwelt many years in tents.

The mountains of Judea and Syria—the cedar-topped ranges of Lebanon—join the mountains of Sinai to the range of Taurus, and complete our survey of the highlands of Asia.

3. The Lowlands.

The most extensive of the Asiatic lowlands is that continuation of the great northern plain of Europe which is called Siberia. In the west its width from the south-east of the Caspian to the mouths of the Ob and Yenisei exceeds 2000 miles. The Caspian Sea was at one time connected with the Aral, and even with Lake Balkash. The upheaval of parts of the floor of this great inland sea severed its waters from the ocean.

Between these great lakes much of the surface is barren, and covered with sand. Where, however, rivers cross these wastes, so that water can be drawn off by sluices to moisten the ground, man's toil and skill are rewarded by bountiful crops of all that he can wish for.

North of the Caspian and Ural spread the level plains of the Kirghiz steppes—grassy pastures, browsed by countless flocks of broad-tailed sheep, droves of camels, and herds of wild antelopes. These grass lands spread northward along the basins of the Ishim, the Irtish, and Ob, which in winter, being covered with frozen snow, form a sledge road for caravans of traders between China and Russia.

Farther north, about the latitude of North Britain, the Siberian plain is covered with forests of pine, fir, and birch, sheltering sables, squirrels, martens, foxes, and other fur-bearing animals. Thousands of hunters gain a livelihood by hunting these animals.

North of the forest belt, towards the Arctic Circle, stretch the dreary moss-covered Tundras, so low and level that in winter none can tell where the land

ends or the sea begins. In summer these mosses supply food to the reindeer. In winter, the polar bear is monarch of all he surveys. In bygone times the mammoth roamed over these wastes—an animal resembling the elephant in shape and size, but hairy. Embedded in the ice, their frozen carcasses are to this day so perfect that their flesh is wholesome. They are eagerly sought and uncovered for the sake of their ivory tusks, in which a large trade is carried on with Europe.

Of the great plain watered by the Tigris and Euphrates, mention has been already made. Where once were busy cities surrounded by gardens and crops, nourished by sluices from the river, the roaming herdsman now drives his flocks over the sand-strewn plain.

South of the Himalayas spreads the great plain watered by the Ganges and the Indus. Much of the latter is a sandy desert. The former, by its fertility, sheltered position, and delta, reminds one of the plains of Lombardy watered by the Po, and shielded by the Alps from northern blasts.

The remaining lowland is the great plain of China, which is so skilfully watered and tilled as to maintain nearly 200 million people.

4. *Rivers.*

From the seaward slopes of the lofty mountain ranges in the heart of Asia, the drainage is carried chiefly northward and eastward by enormous rivers. If we would realize the length of some of these rivers, we

should remember that the whole length of Great Britain is only 600 miles. Thus the Ob, which drains Western Siberia, the eastern slopes of the Urals, and the northern slopes of the Thian Shan and the Ala Tau Mountains, is 2700 miles long ; while its highest source is nearly 2000 feet above the sea. The Yenisei, which drains the Altai Mountains, is yet longer. Its headwaters pass through Lake Baikal, which is 400 miles long.

The Lena, draining the northern slopes of the Yablonoi range, is the great artery of Eastern Siberia, and is navigable almost to its source from May to October ; after that it is frozen over, as are also the mouths of the Yenisei and the Ob.

The southern slope of the Yablonoi range is drained eastward by the Amur, which is navigable for 2500 miles.

The Hoangho or Yellow River, so called from the colour of the mud which it washes from its banks, irrigates, and, alas ! often inundates, Northern China. Its stream is too swift to be stemmed by Chinese craft, and is unsafe for steamboats. By often changing its course, it has proved a most destructive river, washing away whole villages and fields. Thirty years ago it changed its mouth from the Yellow Sea to the Gulf of Pechili,—a distance of about 250 miles.

The great highway of China is the mighty river Yang-tse-kiang. Its upper course lies for some 1300 miles amid the steep mountain gorges of Tibet, where the stream, though deep, is in places so hemmed in by rocks, that boats can only pass by each keeping its own side, like carts meeting in a narrow lane.

The Me-Khong, the largest river of Further India,

drains the mountains of Yun-nan, and after a southerly course of 1700 miles forms the delta called Cochin-China, now held by the French.

The Menam, or Mother of Waters, in Siam, like the Nile in Egypt, enriches its basin by a yearly overflow.

On the west of the Malay Peninsula are two other rivers with southerly courses,—the Salwen and the Irawadi, both of which reach the sea in British Burmah, and draw their supplies from the mountains of Yun-nan. The Salwen is navigable for 400 miles above the port of Maulmain, the Irawadi for 600 miles.

The Brahmaputra is navigable from its mouth as far as the mountain gorges by which it leaves Tibet for Assam, and also in its higher reaches in Tibet; but the jealousy of the natives shrouds the course of the river from the eyes of strangers. The Ganges is navigable for more than 1000 miles. One single branch of its delta, the Hugli, has more tidal and navigable water than the whole of the Thames. The Indus, on the west of India, allows ships to steam up for 950 miles, though, like the Hoangho, it has a shifting channel.

The only remaining rivers of importance are the Euphrates and the Tigris. The lower 120 miles of tideway, common to both streams, admits fair-sized vessels. Up the Euphrates vessels can sail for 1150 miles, as far as the bend at Bireh, where the stream is only 100 miles east of the Gulf of Scanderoon. A railway between these two points would make a short cut for traffic from the south of Europe to India and the south of Asia. It is worthy of note that in the reign of Queen Elizabeth this was the trade route to India. The Euphrates is navigable for eight months in the

year. During the other four it lacks water. In the heart of Asia are streams and lakes which have no outlet to the ocean, but form a little world of their own.

The largest lake, the intensely salt Caspian, draws its main supply from Europe by the Volga. From the south of the Caucasus it receives no mean volume of water by the river Kur and its feeder the Aras.

The shallow and brackish Sea of Aral is about the size of the mainland of Scotland, and is 157 feet above the level of the ocean. It is fed by two rivers large enough for small steamers, the Syr Daria or Jaxartes draining the northern slopes of the Thian Shan, and the Amu Daria or Oxus draining the western slope of the Pamir steppe and the north of the Hindu Koh.

The inner drainage of the Ala Tau Mountains is received by the still saltier Balkash Lake, 350 miles long. South of this, at a height of 5000 feet, in the Ala Tau range, is the warm lake Issyk Kul, which is 120 miles long, and too deep to freeze as do the other lakes.

5. *Climate and Products.*

This survey of the surface of Asia will suffice to show how very varied must be its climate and productions.

Its northern shores, lying wholly within the Arctic Circle, are frozen to a depth of hundreds of feet. Only for a few weeks in summer does the sun, which at that time sets not for many days together, but seems to wheel round as a stone in a sling, thaw a yard or so of the surface soil, and make the marsh lands impassable to the squat stunted race of men which dwell there. Their

short summer, however, enables them to grow some few crops, wherewith to vary the sameness of their flesh food.

The cold of Siberia, like that of Europe, becomes more severe the farther one goes eastward, as far as the valley of the Lena, where is Yakutsk, the coldest inhabited place in the world. East of that, although no warm equatorial current laps the north-eastern coast of Asia, moisture from the Pacific somewhat lessens the intense cold. The Aral Sea, though as far from the North Pole as the south of France, and at a low level, is covered every winter with ice a foot thick. Lake Balkash, being still farther east, and 500 feet higher, is frozen from November to April.

On the other hand, the three southern peninsulas of Asia stretch well into the tropics, where, however, sea-breezes so far modify the heat as to make it less oppressive at the southernmost point than on the plains of India, the tableland of Arabia, or the steppes of Turkistan.

The change from noontide heat to midnight cold in the heart of Asia far exceeds the change from our hottest summer day to our coldest winter night. The vast expanse of intensely heated soil, when the sun's midsummer rays are beating down on Arabia, India, and Burmah, by making the hot air rise, draws in cool moist air from the Indian Ocean. A glance at the map will show that Persia and Turkistan get no good from the south-west monsoons thus created, which must needs drop all their moisture on the lofty mountains to their south.

The same heated soil draws in air also from the Arctic and Pacific Oceans. Hence in Northern Asia

during summer, north-easterly winds prevail. Robbed of their moisture by the long chain of mountains ranging from the Hindu Koh to East Cape, these winds have none to spare for the deserts of Gobi and Turkistan. Japan, however, has a full share of their showers; and China, too, by her eastern mountains, draws down their moisture.

The races which at various times went forth from Central Asia to people the earth, took with them for use in their new homes both animals and plants. There is the home of the wild horse, the ass, and the camel, of the ox and the buffalo, the sheep, the goat, and the domestic fowl. Thence come our best fruit trees,—the orange, lemon, peach, apricot, fig, olive, vine, and nut. There blooms the rose, with other garden flowers, besides hemp and flax.

In Southern Asia thrive rice, coffee, sugar-cane, date and coco-palms, opium-poppies, cotton, indigo, bananas, mangoes, thickets of bamboos, and forests of teak—a better wood for shipbuilding than our boasted native oak. To Eastern Asia we owe tea and silk; nor should that sagacious beast of burden of the great southern peninsulas, the elephant, be left unnoticed.

To Western Asia we owe all the great religions which have led the better among mankind to live higher lives than 'the beasts that perish.' To Asia we owe the teaching of Jew and Mohammedan that there is but one God, the Christian faith which has taught charity to the West, the Buddhist creed which has softened brutish instincts in the far East. Before the oldest even of these faiths, a great preacher from the highlands of Khorassan had taught his fellowmen to worship the one true God.

CHAPTER XIX.

ASIATIC TURKEY.

As we ended our wanderings in Europe on the northern slopes of the Caucasus, we cannot do better than commence our Asiatic roamings by crossing to their southern slopes, which are now under the rule of the same great Northern Empire. A central pass, at a height of more than 8000 feet, is now crossed by a railroad. This road, under the eastern slope of the towering Kasbek, leads through a deep, richly-wooded gorge, to the fortress of Tiflis, the capital of the old kingdom of Georgia. The river Kur gives Tiflis a waterway to the Caspian Sea; with the Black Sea it is connected by a railway leading to the port of Poti. Fifty miles from its mouth the waters of the Kur are swollen by those of the Aras or Araxes, into which the melted snows of Mount Ararat find their way northward, as does also the overflow of Lake Gokcha, a large sheet of water walled in by the highlands of Armenia. The huge dome of ice and snow which caps the upper 3000 of the whole 17,000 feet of Mount Ararat is not melted in the hottest summer.

The southern valleys of the Caucasus, well watered by the melting snows of the lofty range which shelter it on the north-east, are very different to the bare

steppes on the north of the range. They abound with vines, rice, tobacco, and indigo. The Caucasus is deemed the original home of the chief races dwelling in Europe, Persia, Arabia, and India. Its present inhabitants, however, are chiefly Mongolians. They are mostly fine hardy mountaineers. About the middle of this century they made a good, though fruitless, fight for freedom against their present rulers.

Quite lately, after a struggle with the Turks, Russian power has been extended southward so as to embrace the useful port of Batum on the Black Sea and the strong fortress of Kars, perched on a steep and lofty rock, which has stood many a siege in troubled times.

1. *Anatolia.*

From Batum westward, the whole tract of Asia Minor, and most of the outlying islands, are in the hands of the Osmanli Turks, of whom we have already spoken as the masters of the Bosphorus, the Sea of Marmora, and the Dardanelles. Their European lands the Ottomans won by the sword in the middle of the fifteenth century. Now, after upwards of 400 years' possession, they seem to be losing them piece by piece. But their Asiatic lands have belonged to them for about eight centuries. It was in the eleventh century that the Turks, flocking westward from Turkistan, wrested their power from the Arabian rulers of Bagdad and Damascus. At the height of their power the Turkish sway stretched from the Ægean Sea eastward to India and Tartary. In the thirteenth century the invasion of

Genghiz Khan, with his Tartar hordes, left them in Asia those lands alone of which we find them still masters. These are some of the fairest lands on the earth. The dwellers there, too, are among the finest of the human race ; but their rulers are so corrupt and open to bribes, that the poor are left without justice, and sunk in ignorance. Thus a goodly country, about eight times as large as Great Britain, and one which in bygone ages was the home of most, if not all, of our forefathers, for lack of good rule, is now only half peopled and half tilled. Of its whole sixteen million inhabitants, only about seven million are Turks or Tartars ; and of these about five millions till the soil or keep flocks in Asia Minor. About five million Arabs roam the plains, tending flocks of sheep and camels.

Besides Asia Minor and Armenia, Turkey holds Mesopotamia, a broad strip lying along the western shores of the Persian Gulf, Syria, Palestine, and a broad strip stretching southward along the whole eastern coast of the Red Sea facing Egypt. Upon the Arabs between these two coast strips she has no hold. The surface of the greater part of Asiatic Turkey is well fitted to rear a hardy race of mountaineers.

The whole of Asia Minor is one great tableland, propped north and south by lofty buttresses capped with perpetual snow. Along the southern shores of the Black Sea the range of forest-clad mountains falls from 9000 feet on the east to 3000 on the west, but south of the Sea of Marmora again rises to the peaks of Ida and Olympus, nearly 6000 feet in height. The climate of these lands sloping to the Black Sea is so severe in winter that the peasants build their huts half

underground. The hill-sides are clothed with forests, the valleys very fruitful, abounding with mulberry and olive trees, vines, etc. Along the Mediterranean shore on the south, the loftier Taurus range, with peaks from 6000 to 10,000 feet in height, runs eastward as far as the great pass once known as the Cilician Gates. It lies north of the city of Tarsus, famed as the birth-place of St. Paul. Here the range divides, part, called Anti-Taurus, running in a north-easterly direction, and part continuing with a more broken course eastward to the great bend of the river Euphrates on the south-west of Kharput.

Here and there on the north of the Taurus range, amid extinct volcanoes, large salt and brackish lakes receive its inner drainage, and have no seaward outlet. Many large rivers carry the rest of the drainage either to the Black Sea or to the Mediterranean. To the former, the Kizil, formerly called the Halys, in a course of 700 miles, carries the drainage of Eastern Angora. This district is famed for the goats which supply us with mohair. Entering the Black Sea by a delta, the Kizil supplies no seaport. The best ports on that coast are Trebizond on the east, and Sinope, west of the Kizil. On the west, Angora is drained by the Sakaria, a river 300 miles long. With the names of the smaller rivers flowing westward to the Mediterranean, there is no need to burden the memory. Their valleys, like the islands which lie off the coast, produce fine crops of figs, grapes, oranges, lemons, cotton, tobacco, and opium. Had they but roads to convey their goods to the seaports, the tillers of these rich lands could cheaply supply Europe with abundance of such produce.

Of the beautiful and fertile islands off the west coast, the largest is Rhodes, about the size of Bedfordshire. After the Crusades, when the Christians of Europe were bent on ousting the Saracens from the Holy Land, during the reigns of our Plantagenets, Rhodes was held by the Knights of St. John. This healthy and fruitful isle was famed for a bronze statue striding over the entrance to its port. The Colossus was so large that vessels could enter between its outstretched legs. Two thousand years ago these islands, and some of the towns on the mainland, as Ephesus, Miletus, Smyrna, Chios,¹ and others, were places of importance. How many know them now?

2. Mesopotamia

Is the ancient name for the basins of the Euphrates and Tigris. The former carries southward the drainage of the southern highlands of Armenia, and of the eastern slope of the north-eastern or Anti-Taurus range. The arrowy Tigris carries down tons of mud from the main chain of the Taurus and the mountains of Kurdistan. The upper course of both streams is amid high mountain gorges; their lower valleys are of rich soil brought down in the course of ages by the rivers from the mountains. Their banks are the native home of wheat. North-east of the sources of the Tigris, embosomed in lofty mountains at a height of 5500 feet, lies the salt lake Van, a sheet of clear blue water as large as Lancashire, teeming with fish and wild-fowl, and enjoying a beautiful climate.

The famous city of Nineveh, capital of the Assyrian

¹ In the spring of 1881 a terrible earthquake cut short the lives of some 5000 inhabitants of Skio (Chios).

empire, stood on the banks of the Tigris a little north of Mosul, just above where the river, quitting the mountains for the plain, becomes navigable for 600 miles.

Babylon, the capital of the empire overthrown by Kur or Cyrus the Persian monarch, stood in the plain on that part of the Euphrates from which the Tigris is only thirty miles distant on the east.

Over the ruins of these two great cities, and their fertile gardens, the sands of the Syrian desert have been blown for many centuries. No traffic plies up and down these noble rivers. No canals draw their waters over the thirsty soil. Wild Kurdish horsemen, or the Bedouin's flocks, roam at will over the plains where the mighty are indeed fallen. Though the summers are very hot and dry, the winters are mild, owing to the nearness of the Persian Gulf and the shelter of the surrounding mountains.

3. *Syria.*

Along the Syrian coast tower the lofty cedar-clad ranges of Lebanon to a height of 10,000 feet, backed on the east by the lower range of Anti-Lebanon. From the rich upland vale of Bukaa, between these ranges, flow two rivers,—the Orontes, northward by the old city of Antioch; the Leontes or Litany, southward, entering the sea near Sur, the site of the ancient port of Tyre. Tyre, and its mother city Sidon, sent forth mariners some 3000 years ago to fetch tin from Cornwall. Owing to an upheaval of this coast-land, the island on which the former city stood has become part of the mainland. Near the source of these two rivers are the famous ruins of Baalbek, or the City of the Sun, which before and

during the Roman tenure of Syria was of great note. The sea-coast between the mouths of the two rivers is well watered, but abounds in frowning precipices, especially near Beyrout. The hill-sides are studded with convents and the villages of the quarrelsome Druses and Maronites. In a fruitful plain, watered from the south-eastern slopes of Anti-Libanus and the eastern slope of the lofty Mount Hermon, stands the famous city of Damascus, where every house stands in its own garden, well stocked with vines, fig, olive, and peach trees. The summers of the Syrian hills, as might be expected from their height and latitude, are mild and balmy, the winters cool and bracing. The rich soil of this valley maintains a large population.

Southward from Hermon, towering on the north to a height little short of 10,000 feet, stretches the valley of the Jordan, called El Ghor. Here once lay an inland sea larger than the Adriatic, stretching southward as far as the mountains of Arabah. When the Sahara Sea was dried up, the rainfall was so lessened that this great sheet was also dried up, leaving only the great salt lake of the Dead Sea, and the lakes of Tiberias and Merom. For a length of nearly 200 miles this strange hollow lies below the level of the Mediterranean. The surface of the Dead Sea is 1292 feet, its bed 2276 feet, below that level. Along the whole 46 miles of its length it is hemmed in by steep cliffs 1500 to 2000 feet high. Its waters are so salt and bituminous that fish washed down to it from the Jordan and smaller streams at once die. The human body will not sink in its heavy waters.

As we find the products of temperate climes growing on high ground in tropical lands, so might we expect

to find tropical plants growing in hollows below the sea level in temperate climes. Such is the case in the valley of the Jordan. A tropical oasis, which has the look of a series of pleasure grounds, and abounds with palms, indigo, and other plants, and birds, found elsewhere only within the tropics.

Southward from the east of Damascus spreads the Syrian desert, crossed by low bridges of limestone. The northern is not a sandy but a rocky wilderness. In it lies one of the strangest tracts on the earth, consisting of volcanic rocks scarred and furrowed with clefts and rifts, in which the natives hide their dwellings for coolness' sake, and the streams run in narrow gullies, walled in by black rocks of great height. In the north of the Syrian desert the most noted place is Tadmor, the ancient city of Palmyra; in the south, Petra, the strangest city in the world. Its main street, two miles long and from ten to thirty feet wide, is enclosed between upright rocks from 100 to 700 feet high, which leave but a thin strip of sky overhead. Down this street runs a stream, which has once been quite a torrent. The sides of the rock have been hollowed out into buildings of every kind and size.

Turkish rule extends far south along the west of the Persian Gulf, and yet farther south along the Red Sea, where the mountains tower to a height of 6000, and in some cases even 14,000 feet. The whole of this volcanic region has a bleak and forbidding aspect. Along it lies the pilgrim's route to Meccah, the birth-place of Mohammed; on that route is Medinah, where the prophet taught, died, and was buried.

CHAPTER XX.

ARABIA.

NEARLY severed from the rest of Asia by the valley of the Euphrates and the Persian Gulf, whose scorched, hill-girt shores show no refreshing green, the peninsula of Arabia lifts to an average height of 1000 feet a tableland four times as large as the south-western peninsula of Europe, but maintaining a population of only six millions.

The north-east trade-winds doom it to such long and frequent droughts, that one-third of this large area is hopelessly barren. From the mouth of the Euphrates to the isthmus of Suez, the central tableland is fringed with a flat sandy strip from 30 to 100 miles wide, many parts of which are made fruitful by a careful use of the moisture trickling from the inner tableland. In the northern stony and gravelly desert, red sand is piled in wavelike ridges more than 200 feet high. Here and there, however, are oases caused by springs in hollows. In these grow a few date-palms and a little herbage. The seed of a low plant which grows wild in the desert supplies the Bedouins with food. During the summer heat, at times the suddenly overcast sky is blackened at mid-day, while the simoom, or poison-blast's scorching breath, constrains the traveller to grovel on the ground with head and face muffled in the long

folds of his burnous, and his moaning camel to crouch low with closed eyes.

In the north the oasis of Jauf, sixty miles long and eleven broad, contains many villages, where, as in Damascus, every house stands in its own orchard, stocked with choice fruit trees. Down the centre of the peninsula runs a range of chalk hills above 3000 feet high, seamed with a network of narrow valleys. Along these in the rainy season roaring torrents rush over beds which for the rest of the year lie dry. In these narrow clefts the villages are built for the sake of the 'shadow of a great rock in a weary land,' and for the moisture always to be had by digging wells some four or five yards deep. The chief town, Riadh, surrounded by a trench and lofty walls, encloses well-stocked fruit gardens.

The southern part of Nejd, or the high land lying in the tropics, has a less dry and bracing air, but is far more fruitful than Northern Arabia. Its valleys grow dates, corn, maize, figs, oranges, citrons, melons, and cotton; while its higher plains supply pasture for countless sheep and camels, as also for oxen and horses. The latter are so highly prized that the best are never sold to foreigners. The Sultan of Nejd is a despotic ruler, enforcing the strictest form of Mohammedanism. His subjects, called the Wahabees, are very intolerant of those who hold other religious beliefs.

The wealthiest part of Arabia is Oman, on the south-east, which has about the area of England. Here in many places the mountains rise to a great height sheer from the water's edge. When the north-west monsoon vs down the Persian Gulf, heavy rains temper the

heat, which for six months of the year makes ovens of the sea-side towns. The towns on the hills remain comparatively cool all the year round. Coffee, sugar-cane, and coco-nuts are grown here, as well as dates, raisins, and other fruits already named. Its chief town and seaport, Muscat, is a large and thriving place, inhabited not only by Arabs but also by negroes and traders from every land.

The hilly district of Hadramaut, which lies along the coast between Oman and Yemen, is at present almost unknown. The tableland is here 8000 feet above the sea, propped by granite mountains. In one part of its desert is a tract of sand so fine and loose that a plummet was once allowed to sink in it, as into the sea, to a depth of 300 feet without reaching the bottom. The Arabs have it that a whole army once perished in these sands. In bygone times it exported frankincense and myrrh. Yemen is often called *Arabia Felix*, or 'Araby the blest,' owing to the great fertility of those glens, in which small but constant streams supply water for irrigation. Its principal town, Mokha, is noted for the finest coffee, dates, and gums. South of Yemen stands the famous British fortress of Aden, with its excellent harbour.

The wedge-shaped peninsula connecting Syria with Africa culminates in the mountain group of Horeb and Sinai. The southern peaks, approaching a height of 9000 feet, are snow-capped in winter, and embosom verdant gullies. The northern desert is covered with ranges of high rocks, seamed with deep rifts, and so forbidding that the Hebrews, after so long a sojourn in that dreary wilderness, may well have deemed Palestine a land flowing with milk and honey.

CHAPTER XXI.

PERSIA.

BETWEEN the Persian Gulf and the Caspian lies the tableland of Airan, the cradle of the great conquering races. That part of it which forms the realm of Persia has five times the area of the British Isles, but little more than five or six million inhabitants. The general height of the plateau varies from 2000 to 3000 feet. On the north it is fringed by a flat and moist coast strip lying between the Caspian Sea and the Elburz range, which forms the northern edge of the tableland; on the south by a dry belt of lowland along the Persian Gulf and Arabian Sea. In a curve of 1000 miles from the valley of the Tigris to the mouth of the Indus, parallel ranges of mountains, some 200 miles wide, overhanging these lowlands, form the western and southern fringes of the inner tableland.

Some of these ranges have a greater average height than the Elburz range. Though so near the tropics, their summits in the heat of summer never lose their snow caps.

The tableland itself is mostly a barren waste, broken here and there by oases, due to artificial irrigation, so that when rain fails famine ensues. Its natural drainage has no seaward outlet, but is chiefly continental,

that is, whatever rain falls is again sucked up by the air, having no seaward outlet. The largest sheet of water, Lake Urmiah, in the north-west, lies 4000 feet above the sea, and is too salt for fish to live in. Between this lake and the Caspian are beautiful plains and peaceful glades. Indeed, wherever rivers find their way to the Caspian or to the Persian Gulf, their ravines and valleys are very fertile. The strip between the Elburz and the Caspian is like a dense tropical jungle.

The winters in Persia are as chilling as her summers are scorching, except in the lowlands skirting the Persian Gulf and the Caspian Sea, which do not suffer from these extremes of heat and cold.

The chief wealth of the country consists of herds of fine horses, sheep, and goats. From the soft hair of the latter, fine cloths and shawls are woven. The wool is dyed and woven into very handsome carpets. These goods are sent for sale chiefly to Tabriz, in the north-west, a town as large as Sheffield. Between this town and Tehrán, the capital, the mountains and swamps are infested with lions, tigers, leopards, wolves, and boars. The rivers abound in sturgeon.

Persia is noted for her silk stuffs and engraved sword-blades. In the Elburz Mountains is found the beautiful blue turquoise. In the vale of Shiraz miles of roses are grown for attar, and poppies for opium. Her towns are built of mud walls, and the whole country is very poor. The Shah, as her absolute monarch is styled, is looked upon as the vicegerent of the prophet Mohammed. In the seventh century, when the Mohammedans overran and converted Persia by fire and sword, many of the Persians, clinging to their old belief, as taught by the famous

Zoroaster, left their native land for India and Turkistan. We noted the presence of these Parsees at Bombay and elsewhere, as the great merchants of those parts. They believe that good and evil are struggling for the mastery, and that good must at length prevail. Such was the belief of the wise men from the east who followed the guiding star to the lowly cradle in the manger at Bethlehem. The Parsees look upon the sun as the emblem of goodness, and they are, therefore, often spoken of as fire-worshippers.

CHAPTER XXII.

AFGHANISTAN—BILUCHISTAN.

OF the eastern third of the tableland of Airan, the northern part is called Afghanistan, the southern, Biluchistan. The latter is somewhat larger than Great Britain, the former than Spain and Portugal. In the whole tract there are little more than four million people. They are brave and warlike, but somewhat treacherous, and, like most mountaineers, love their freedom. Through these two countries lie the two roads by one of which all invaders have entered India, viz. the Khaibar Pass beside the Kábul River, and the Bolan Pass by Kandahar and Quetta. The Afghans have a rooted dislike to the presence of foreigners in their land. They claim to be sons of Israel, but their language shows them to be of Aryan race.

In the south, the Hala Mountains form the eastern edge of the plateau of Airan. The level coast-strip called Makran is in summer one of the hottest lands on the earth. In this desert perished thousands of Alexander's soldiers on his return from India.

North of the Bolan Pass, the Sulaiman Mountains, overlooking the valley of the Indus, form the eastern fringe of the tableland of Airan. North of this range the Kábul River, flowing parallel to the Khaibar Pass,

joins the Indus at Attock, and is navigable as high as Jalalabad.

The city of Kábul, higher up the stream, lies in a fertile valley, encompassed on the north by the snow-clad range of the Hindu Koh, whose summits exceed 20,000 feet. Yet higher up stream, 85 miles south of Kábul, perched on a rock towering 280 feet above the plain, stands the fortress of Ghazni. A Turkish king reigning here in the ninth century was master of the whole country from the Tigris to the Ganges.

Westward, beyond the source of the Kábul river, the Helmand, gathering up the waters of many fruitful vales, and of the fruitful province of Kandahar, carries the drainage south-westward to the Seistan swamp.

The Hindu Koh, a range 400 miles in length, is connected with the Elburz Mountains by the Koh-i-Baba, the Safid Koh, and other mountains which skirt the north of Khorassan, and thus complete the northern border of the western tableland of Asia. Herat is the chief town and province of the north-west corner of Afghanistan. The dwellers in these parts are of Moghol race, the race with which, during the rest of our wanderings in Asia, we shall have most to do.

Deeming this mountainous country a bulwark for Hindusthan against possible encroachments by Russia, the British have for many years struggled to maintain a strong, settled, and friendly government, capable of uniting the rival tribes as one people, and enabling them to resist the passage of an invading army. Against the will of the Afghans no army could hope to reach either of the great passes into India. The English have at

one time sought to enlist the goodwill of the Afghans by gold, at another to overawe them by force of arms.

The sheltered valleys of this wild country grow very fine fruits, as peaches, grapes, melons, etc. The lower slopes of the mountains are well wooded with pine, oak, walnut, and cypress, which harbour leopards, wolves, hyenas, jackals, and bears. Horses, camels, and sheep are abundant, as also copper and iron.

CHAPTER XXIII.

WESTERN TURKISTAN.

WE now quit the tableland for the central lowlands. Travelling northward from Kábul by the Haji Kak Pass, which, though over 12,000 feet above the sea, admits the passage of cannon, and passing Bamian, noted for its cave dwellings and fine buildings, we enter the valley of the Oxus or Amu. Here we find crops of rice and wheat, and pastures grazed by horses, cattle, and camels.

Farther west, at the foot of the Koh-i-Baba, lies Balkh, the ancient Bactria, the home of the two-humped camel, as Arabia is of the one-humped. Here was born the great Zoroaster, who preached the one true God when all around were groping in ignorance and sunk in superstition. Here later reigned Greek sovereigns over countries subdued by Alexander the Great, in the fourth century before Christ.

Balkh is still called 'the mother of cities,' on account of its greatness ages ago, at a time when our forefathers were in a very rude state. In the tenth century the city was 30 miles round.

The above named districts of Turkistan are now attached to Afghanistan.

1. *Bokhara,*

A tract about the size of Great Britain, lies north of Balkh and west of the Pamir Steppe. It is a land of sandy steppes, dependent chiefly on sluices from the river Oxus and its feeders. By these means cotton and silk, as well as corn and fruits, are grown, and many sheep and cattle reared.

The chief city attracts traders from all quarters, north and south, east and west, to exchange goods brought thither by camels. Afghans and Arabs, Hindus and Jews, Kirghiz and Turkomans, a motley crowd of many hues and tongues, throng the busy marts of Bokhara. The city, a walled one, is said to have been founded by Alexander the Great. The natives are chiefly Uzbeks. The 'Mir' of Bokhara, like the Shah of Persia and the Sultan of Turkey, is a sort of Mohammedan bishop.

2. *Khiva,*

A country somewhat smaller than Scotland, lies to the west of the Oxus, where it draws near to the Sea of Aral. The Khan of Khiva can hardly be called an independent prince, as he does homage to the victorious Russians. His subjects are akin to those of Bokhara, and the productions of the country are similar. Between Khiva and the Persian border, round the sandy desert of Kara Kum (Black Sands), roam the warlike Tartar horsemen called Turkomans. The chief tribe, called Tekkes, by their lawless robberies have brought down upon themselves the vengeance of Russia. Their chief

stronghold is Merv, in the oasis formed by the river Murghab. Their plundering raids on Russian subjects constrain Russia to punish them; much as Great Britain, having once occupied parts of India and Africa, and other countries, was forced by such attacks to annex land after land.

3. *Russian Central Asia.*

The rest of Western Turkistan has been thus annexed by Russia during the last few years. The whole area of the annexed provinces is about twelve times that of the British Isles; its population no greater than that of London.

Over the northern steppes, a dry and stony tract between the Caspian and the Aral, roam the Kirghiz, who own no land, but use all that their herds require for the time being, and seek new pastures as they need them. The cold winds that whirl the snow about in winter, and the burning heat that bakes the soil in summer, are alike unpleasant. West of the Sea of Aral, between the rivers Syr and Amu, spread the Kizil Kum, or Red Sands. East of this waste the land rises up to the snowy ridge of the Thian Shan. The cream of this tract is the fertile basin of Kokan, watered by many streams, and inhabited by the offspring of the old Persians or Parsees. North of Kokan is the great trading city of Tashkend, the centre of many caravan routes.

Samarcand, between Kokan and Bokhara, was the seat of government of Timur-leng, or Lame Timur, commonly called Tamerlane, descended from the great

Tartar¹ prince Genghiz Khan. Timur sallied forth at the end of the fourteenth century to regain his forefather's empire, but died before he had completed his work.

The Sea of Aral, which forms the centre of Russia's new provinces, is a salt lake about the size of Scotland, parted from the Caspian by the bare plateau of Ust-Urt, 300 miles wide and 600 feet high, whose edge rises like a wall from the water's edge, and which may be deemed the southern point of the Ural range.

The Balkash Lake, a bitterly salt shallow pool, 350 miles long, is supplied by seven streams from the Ala Tau Mountains. In the valley of the Ili, the largest of these streams, the mud-walled town of Kulja trades with the Chinese, to whom till lately the town belonged.

By her recent conquest of the Tekke Turkomans, Russia has incorporated with her forces the finest horsemen in Asia, descendants of those myriads with which Genghiz Khan swept over Central Asia and Eastern Europe, and conquered the Muscovite forefathers of the Russians. They are akin to Russia's hereditary foes, the Turks.

¹ Tartar by the Arabs is spelt Tatar. If Turk and Tartar be kindred names as well as races, the 'r' should remain.

CHAPTER XXIV.

SIBERIA.

THIS enormous tract of level land stretches more than 4000 miles eastward from the Ural belt to the Pacific Ocean. With nearly fifty-five times the area of Great Britain, it has a scattered population little exceeding that of London, brought together mainly by the mineral wealth of the Ural and Altäi Mountains. From the latter range, the ground slopes to the Arctic Ocean, and hence lies open to the icy blasts that blow thence. In winter, happily, winds are rare, for no living thing can then face them. The southernmost part of Siberia is in the latitude of Rome, its northernmost is within 12 degrees or 840 miles of the North Pole.

Of Western Siberia, the northern border consists of the frozen Tundras, a belt 600 miles wide. In the middle is forest-land, capable, when cleared, of growing good crops of corn (not, however, north of the 62d parallel); while its southern districts, north of the Aral and Caspian Seas, are grassy, treeless steppes. In the middle belt fine black corn-land may be rented at $3\frac{1}{2}$ d. per acre! A tree fit for a ship's mast may be bought for 1d.!

To Eastern Siberia the mountain ranges trending farther north give greater variety of surface; and in its extreme east the plain is narrowed to a mere coast strip.

To the natives of Eastern Siberia, save for a few weeks in summer, life is one long struggle against cold and hunger. When winter sets in, the moisture steaming from living bodies is at once changed to needles of ice, which make a noise in the air like the crackling of ripped silk. The reindeer flee to the forests, and stand behind trees, crowded together for heat, and torpid with cold. The tree-trunks crack with loud and sudden noise, and the dogs outside the huts burrow beneath the snow. Through the long nights the dry air allows the stars to shine with amazing brightness, and the flashes of the northern lights produce twilight.

When summer at length melts the snow, the ground is forthwith covered with verdure, while for a few short weeks flowers of many hues gladden the eye.

For lack of good roads and bridges, travelling in Siberia is carried on most quickly in winter, when no marshlands hinder traffic. In summer, rivers and lakes afford the readiest highways. Steamers then ply on Lake Baikal and the rivers Ob, Yenisei, and Amur.

In the south-west winter sets in about November and lasts till March; but on the lower valley of the Lena it begins in October and lasts till May. Though the mouth of the Amur is in the latitude of Birmingham, its winter lasts more than seven months.

The capital of Western Siberia is Tobolsk, at the confluence of the Tobol with the Irtysh; that of Eastern Siberia is the fortress of Irkutsk, near Lake Baikal.

Tomsk, the most populous town, halfway between these two, lies a little east of the meridian of Calcutta. Tomsk and Irkutsk are on the great trade route between Russia and China,—from Moscow to the tea districts,—

a distance of over 7000 miles. In summer the route lies by lake and river; in winter, over snow and ice. Higher up the Ob than Tomsk is Barnaul, the centre of the Altai mining traffic.

The mineral wealth of Siberia is great. In the Altai, near the sources of the Ob and Yenisei, are found gold, silver, graphite, lead, copper, iron, and coal. Some coal mines near Tomsk, having been fired by lightning more than a hundred years ago, have been burning ever since. Another great source of wealth is the export of furs,—deer, elk, bear, wolf, fox, squirrel, and the scarce ermine and sable. The natives, called Ostjaks, are so skilful that they shoot squirrels on the head with blunt arrows not to spoil the skin. The Ostjaks, Gilyaks, and other natives of Siberia, are of Mogholian race, short and thick set.

Of the ivory tusks from the mammoth embedded in the ice of the Tundras and in the Liakov Islands, off the mouth of the Lena, mention has been already made.

Enormous quantities of salmon are taken in all the Siberian rivers. Such fish as will bear the treatment are turned into ponds when caught, and kept there till winter enables them to be sent frozen to St. Petersburg, Moscow, and other large towns. On the Amur a fifteen pound salmon may be bought for a penny in September; and on the Ob a sturgeon, three feet long, may be had for half-a-crown, a duck for 1½d., a pike for ¾d., a calf for 6d. Game, too, there is proportionately cheap.

If the newly-opened route between Europe and the Ob, by the Kara Sea, be much followed by British steamships, a good market will be opened for the spare pro-

duce of Siberia. Starting from Sunderland, a steamer can reach the Ob in three weeks.

The district called the 'The Coast,' which stretches for a length of 900 miles along the Pacific sea-board, as far as the river Tiumen, and which was ceded to Russia by the Chinese in 1861, affords Siberia in Vladivostock, or Peter the Great's Bay, a harbour open almost the whole year round. This is just what the great Northern Power had long been restlessly seeking in the West, and what her ruler had long hoped to attain in Constantinople. Every winter her Black Sea ports are closed for some weeks, her Baltic for some months, and her White Sea harbours for yet longer. During these months, then, her commerce has no seaward outlet. Hence the desire which ever urges Russia southward.

CHAPTER XXV.

THE CHINESE EMPIRE.

1. *Eastern Turkistan.*

IF the south-western corner of Asia, Arabia, may be fairly likened to a coarse shawl with a rich border, the Chinese Empire, its south-eastern corner, may not less aptly be likened to a rich shawl with a coarse border. Of its $4\frac{1}{2}$ million square miles, China Proper covers only one-third. But in this third are crowded upwards of 400 million people, while the outer border, with twice its area, supports less than 30 million. Most of it, indeed, is sandy desert or bleak mountain. For it must be remembered that the Altäi range varies in breadth from 400 to 1000 miles.

From the Pamir Steppe, about the 70th meridian, to the Khingan Mountains on the 120th, a distance of some 2500 miles, spreads the vast desert of Gobi. It is high tableland, parted from the lowlands by an encircling fringe of high mountains. On its north stretch the Thian Shan, the Ala Tau, the Altäi, and Sayan; on its south, the Kuen Lun and Nan Shan part it from the yet loftier tableland of Tibet. Farther east, the Ala Shan range parts it from the Central Flowery Land. On

the east it is parted from the lowlands of Manchuria by the Khingan range.

The western part of this vast tract is sometimes called Eastern Turkistan, sometimes Chinese Tartary. The fortress of Kashgar in the extreme west, and the great trading town of Yarkand to its south-east, and Khotan still farther east, are the only names in it of much interest. Goods are carried over the Himalayas from Yarkand to the valley of the Indus by the Karakoram Pass, 18,550 feet above the sea; to the Oxus, across the lofty Pamir Steppe; to Kokan and Tashkend, by a north-west route over the Thian Shan by the Terek Pass; and north-eastward to Kulja on the Ili.

In the merchant's stalls at Yarkand are silks and tea from China, Lancashire calicoes sent through India, and Russian goods of various kinds.

In summer the dry air of Turkistan allows the sun's rays to beat fiercely, unveiled by any such unseen screen of vapour as always tempers its heat in our moist climate. In winter the same dryness allows the earth's heat to escape rapidly, and intense cold to ensue. Though, from being so encircled by mountains, Turkistan is well-nigh rainless, yet at the base of the mountains lies a fertile border, watered by sluices fed from the melting of their glaciers and snow-fields. Here are grown fine crops of wheat, maize, rice, cotton, hemp, melons, and other choice fruits. Such moisture as flows from the encircling mountains, and is not used up in irrigation, finds its way, by various channels, to form the river Tarim, which, after an easterly course of 500 miles down the middle of the desert, ends in vast marshes.

2. Zungaria.

North of these marshes some parallel ranges of high mountains, flanked by the Ala Tau on their west, between the Thian Shan and the Altäi, enclose lakes, and form the head-waters of the streams flowing to Lake Balkash and the river Irtysh. The district is called Zungaria, and has of late formed a bone of contention between Russia and China. Much traffic passes this way between these two countries, carried on by caravans of camels, sometimes as many as 70 together.

3. Mongolia.

Eastward from Turkistan and Zungaria spreads the steppe-land of Mongolia, 1000 miles broad. The mounted Tartars of this district have no towns or houses, but dwell in felt or goat's-hair tents, and roam at will with their herds in search of pastures. Many of them are thievish rogues. All have round flat faces, eyes aslant, high cheek-bones, scanty coarse black hair, and squat figures. A border of grassy steppes surrounds the central stony desert of Gobi. Through the heart of it runs a deep trench or valley of sand, called Shamo. In all this dreary tract there are no trees, and scarcely any grass. On the north, however, the tableland is broken by some forest-clad hills with grassy valleys. Most of the streams issuing from the mountains end in lakes. The great Siberian river Yenisei has its head-waters in Northern Mongolia. The river Selenga, flowing from the high lake

Kos-gol, finds its way north-eastward through a gap in the northern range, to form the long and deep lake Baikal, nearly half as large as Scotland. Receiving upwards of a hundred rivers, Lake Baikal sends its overflow northward by the deep river Angara to join the Yenisei. The great trade route from China to Moscow follows the valley of the Selenga. Where this route quits the Chinese borders a great fair is held in mid-winter, at which Chinese tea and silk are exchanged for Russian furs, woollen cloths, linen, etc.

The only town in Mongolia is the Chinese settlement of Uliassutai, nearly 6000 feet above the sea. Though in the same latitude as Paris, it is so exposed to cold north-east winds that even at mid-day there the air is always below the freezing point in winter.

The most direct route between Russia and Central China, though one hitherto but little frequented, leads from the province of Kansu (that is, the upper valley of the Hoangho) north-westward by the fertile oases of Hami and Barkul to Lake Zaisan. From this lake the Irtysh allows barges to float down to the Ob. At Hami, sometimes called Khamil, is collected the wool of Turkistan, to be sent to China in exchange for tea, silk, and other goods.

4. *Tibet.*

Quitting Mongolia, which lies about 4000 feet above the sea, we now mount either the Nan Shan or the Kuen Lun range to the highest tableland in the world. Tibet has an average height of 15,000 feet,

little less than the highest peak of the Alps. The southern edge of this wedge-shaped plateau is fringed by the Himalayas, the eastern by the Yunling. In extent Tibet is nearly eight times as large as Great Britain.

The surface of this vast tract consists of treeless, grassy plains, enclosing within lofty snow-clad barriers many large lakes, some salt, some fresh. One of these lakes is 50 miles by 20, or as large as Derbyshire. Another, 45 miles round, forms a ring 2 or 3 miles wide round a central island, crowned with hills from 2000 to 3000 feet high.

Over the plains herds of wild asses and flocks of long-legged sheep, as tall as calves, roam at will. Roaming herdsmen tend flocks of goats and yaks, as well as sheep. Most of the Tibetans are akin to the Moghols, but some are as much beneath them as the Moghols are inferior to the Chinese, and are shameless robbers.

The few towns of Tibet are mere collections of temples and monasteries. Indeed, the country is governed by Buddhist priests. The chief priest or pope, called the Lama, dwells at L'assa, on a plain nearly 12,000 feet above the sea, at the intersection of the 90th meridian and the 30th parallel. The central temple here, ablaze with gold and gems, reflects the rays of the setting sun when it is noon-tide on our eastern shores. Close at hand is a monastery of nearly 8000 monks. Two other towns have colleges of 3500 and 3000 priests. Their teaching and practice it would take too long to set forth.

In Tibet rise all the greatest rivers of southern and south-eastern Asia—the Indus and Brahmaputra, of

India ; the Irawadi, Salwen, and Mekhong, of Further India ; the Yang-tse-kiang and Hoangho, of China. The head-waters of the rivers which rise on the east of the plateau flow from forest-clad slopes through wooded gorges.

For reasons not easily explained, the climate of Tibet is milder than could be expected from its elevation. The snow-line on the northern slopes of the Himalayas, which form its southern fringe, is higher than on the equatorial mountains of either Africa or South America, and the valleys grow crops not to be grown elsewhere at the same height, even nearer to the equator.

In olden times, before the Chinese became masters of Tibet, its inhabitants carried on a great traffic with India through high passes of the Himalayas, which are now jealously closed to foreigners. The Tibetans, however, still contrive to send down gold dust, salt, and ponies, in exchange for English manufactures, by the west of the great chain and through Sikkim.

Their chief gold diggings lie 16,300 feet above the sea. In winter-time some 6000 miners work here, pitching their tents in deep holes to escape the cold blasts.

The holy city of L'assa is a great trading centre. Hither in December China sends tea, silk, and porcelain. The tea is ferried across the Yang-tse-kiang in baskets covered with hides, like the British coracles. From Turkistan come gems, horses, and sheep ; from India, rice, tobacco, pearls, spices ; from Kashmir, saffron. After exchanging goods the traders return home before the melted snows of April make the rivers impassable.

5. Manchuria.

Having now traversed the great tableland we pass to the lowlands of Eastern Asia. The northernmost of these, Manchuria, a tract 800 miles by 500 miles, lies on the right or southern bank of the Amur. The north of it is drained by the river Sungari, which in a course of about 1000 miles carries northward to the Amur the easterly drainage of the Kinghan range. On the east Manchuria is parted by the river Ussuri from what is now Russian territory. Its northern tracts are covered with forests, its western with rolling grassy plains, which pasture large herds of cattle. East of these pastures spreads a bare salt steppe. The valley of the Liao-ho, in the south, bears fine crops of cotton, hemp, and tobacco, and has a good climate. The whole country has abundance of game and fish, but its northern districts have very severe winters.

The Manchus are an able, powerful, and warlike Mogholian race. It was to keep them out that the great wall of China was built. In the fifteenth century, however, the Manchus overran the Central Flowery Land, of which they have ever since remained masters. They are bold riders and skilful marksmen, following the chase with bow and arrow.

Though in the latitude of Oporto, the Manchurian port at the mouth of Liao-ho is closed by ice from November to March.

6. Corea.

South-eastward from Manchuria juts out the penin-

sula of Corea, which has about the area of Great Britain. It parts the Sea of Japan from the Yellow Sea. Its isthmus is uninhabited for a width of 25 miles. Along the eastern coast stretches a chain of high mountains, recalling the Apennines of Italy. Their summits range from 5000 to 8000 feet. The sharp slope of the range, as is usually the case with mountain ranges, confronts the open sea. To the enclosed Yellow Sea its westward slope is gentle, and sheds just such rivers as in England and southern New Zealand flow eastward.

Nearer to the equator than Italy, Corea has about the same temperature as Britain, though of course its winters are far colder, its summers far hotter, than ours. Its rivers are frozen hard every winter, even on the 35th parallel.

The western lowlands yield rice, tobacco, hemp, cotton, and grain. The mountain forests and the jungles at their base abound with tigers, panthers, musk deer, stags, wolves, and foxes. Ponies and large oxen are carefully bred. The Coreans are not only skilful hunters, but practised whalers and sealers. They are also skilful miners of gold, lead, iron, and coal. The King of Corea sends a yearly tribute to the Emperor of China, but the latter has no power to meddle with the government of the peninsula.

No foreigner is allowed to set foot in the kingdom, except the Japanese, who have a free port and warehouses on its south coast. The Coreans are a Mogholian race, like the Chinese, but darker.

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7. China Proper.

From the wilder and more rugged countries to its north, the 'Central Flowery Land' is bounded by the great wall. This remarkable barrier stretches westward from the shores of the Pacific on the 40th parallel for 1500 miles. It is a rampart of earth, formerly cased and coped with stones and bricks, flanked by towers, and pierced with guarded gates. Its height varies from 10 to 30 feet; its broad top allows of several horsemen passing abreast. It crosses mountains, valleys, and ravines. It is now out of repair, and carelessly guarded. On the west the Chinese are content with the natural bulwark supplied by the fringe of the Tibetan plateau.

The land consists mainly of the alluvial soil brought down from Tibet by the mighty rivers already named in our general survey of Asia.

The basins of the Hoangho, or Yellow River, and the Yang-tse-kiang, or Son of the Ocean, are parted by the Pe-ling, or North Mountains. The Nanling, or Southern Mountains, part the basin of the latter river from that of the Si-kiang, or Canton River.

The Great Plain, as large as France, spreads on both banks of the Hoangho, having on its north the great city of Pe-king, or North Town; on its south, Nanking, or South Town.

Of this Great Plain every inch is most carefully tilled. It is dug with the spade, watered by sluices, and manured with garbage and filth of every kind. The Chinese waste nothing. They put dirt in its right place. The network of canals by which it is inter-

sected affords a wonderful proof of Chinese industry. North and south for 700 miles across the Great Plain, tying together the rivers Peiho, Hoangho, and Yang-tse-kiang, and the cities of Nanking and Peking, runs the largest of them all, the Grand Canal. This great work has for many years past been allowed to go to ruin. The Yellow river, in changing its course thirty years ago, destroyed the northern part of the canal, which now lies dry for ten months of the year. It had, however, achieved the main purpose for which it was originally made—namely, to enable fleets of junks to bring rice and other crops and fruits northward to Peking from the rich southern provinces, and thus escape all risk from pirates and storms. Pirates, by our aid, have at length been put down. Storms of great violence are still to be dreaded in Chinese seas, especially in the South China Sea. The Hoangho in one part of the Great Plain approaches within 100 miles of the Yang-tse, and their mouths were once about that distance apart. The Hoangho is said to have changed its bed no less than thirty times within three centuries. At the last change it made itself a new mouth 250 miles to the north of the old mouth. Every summer the Chinese rivers flood the plains, and enable rice crops to be grown. In North China the winters are very cold, so that its vegetation does not greatly differ from that of South-eastern Europe. The richest part of China is that south of the lower basin of the Yang-tse-kiang. Its chief products are tea and silk.

The tea plant, an evergreen shrub, five or six feet high, thrives best on hill slopes. It grows in many parts of China, but the best is grown only in the

maritime province of Fo-kien. Wheat, cotton, maize, sugar-cane, and bamboos, are other important crops of Central China.

In the south grow bananas, mangoes, oranges, yams, rice, and opium poppy.

The mountains of Yun-nan, in the south-west, are rich in gold, white copper, tin, silver, iron, and lead, rubies, amethysts, sapphires, topazes, opals, and other precious stones. In both the great river basins coal is found, and has for centuries been rudely worked. About the centre of the east coast fine porcelain clay, or kaolin, is found in immense quantities. One factory, founded when Danish kings reigned in England, gives constant employment to upwards of a million workmen.

Among the 400 million of Chinese there are no greater differences of appearance than amongst the inhabitants of different parts of our own island. All alike have parchment-coloured skins, coarse black hair, high cheek-bones, and eyes aslant. These features are common to the whole Mogholian race.

In regard to religion, it is very hard to ascertain exactly what the Chinese believe. Most of them are called Buddhists, but do not seem to follow the pure teaching of Gautama. They hold in great reverence Confucius and Laoutze, wise philosophers who lived more than 500 years before Christ. To the teaching of all three the Chinese owe much. They regard death so much more calmly than do Europeans or Western Asiatics, that a rich man condemned to death has no difficulty in finding a poor man willing to suffer in his stead for a few pounds paid to his children. They treat their old folk with kindness and respect, and

hold dear the memory of their forefathers, and are kindly and courteous. However steeped in superstition, a people with so much good feeling must be open to the right sort of religious teaching, must be capable of being made to feel that there is One who cares for us all, and who wills that we follow after what is true, pure, and good.

All public offices in China are gained by competitive examination. To pass from a lower to a higher office a man must be examined. Even old men of eighty have been known to enter the examination hall, and it is quite common for a father and son to compete at the same time. The candidates all sit in stalls on opposite sides of one great hall. Each stall is boxed off by wooden partitions, and supplied with table and writing materials, and a bedstead. Every stall is open in front, so that the examiner can stop any copying; but no candidate can speak to his neighbour. The candidates sleep in their stalls at night, as the examinations last many days. The questions set are on the writings of sages who lived hundreds or thousands of years ago.

Though their land is so rich and well tilled, most of the Chinese are so poor that they are glad to seek work in foreign lands. They are therefore hired as labourers and servants in Australia, India, the East Indies, and elsewhere, where they live on very little, and save their earnings to come home and die at ease in their own land, where in old age they are sure of respectful treatment. So dense is the population, that in many towns tens of thousands live in boats moored on the rivers.

Besides their skill in pottery work, the Chinese are excellent carpenters, workers in metals, carvers in ivory, engravers on wood and stone, and weavers of silk.

With their silk and tea they buy from India much opium for smoking. Having once acquired a liking for the dreamy intoxication produced by this habit, a man finds himself a slave to the vice which at length brings him to a wretched lingering death.

Finding the English content with inferior tea, China sends her best teas by caravans to the Russians, who know how to appreciate it. The tea sent overland is usually compressed into bricks so as to be more conveniently carried in a small compass.

The English have tried so far unsuccessfully to open up an overland trade route through Yun-nan. The natives of the intervening hills are not easy to deal with.

The reigning Emperor of China, a Tartar, is of that very Manchu race which the Great Wall was built to shut out. His person is held so sacred that when he goes forth in public every one must retire indoors, and close all openings by which the holy being might be seen. For he is high priest as well as sole monarch. Great care is taken that the most important offices and commands are held by Manchus. The Chinese are very pliant in their hands. They are a peaceable and orderly people. The old capital of China was Nanking on the Yang-tse, a city girt with eighteen miles of walls. It once boasted a tower of porcelain, 261 feet high, which was destroyed during a rebellion thirty years ago. The city has wide streets and open spaces.

The modern capital, Peking, consists of two distinct

towns side by side,—one Tartar, the other Chinese,—containing between them $1\frac{1}{2}$ million inhabitants. Its walls are fifteen miles round, its streets and spaces roomy.

There is no need to burden the memory with the names of all the Chinese provinces, or of many of its great towns. Those only with which our countrymen have dealings are of importance to us. There are only certain ports at which foreigners are allowed to land. Of these, the best known are Shanghai, Ningpo, Foo-chow, and Amoy, on the coast; and Hankow, 700 miles up the river Yang-tse. For the tide makes itself felt thus far up this mighty river, and thus enables sea-going ships to reach the heart of China.

We are allowed to land on the island of Formosa or Taiwan. Like the islands off the south of Europe, this and the other islands off the south of Asia are very mountainous. Though Taiwan is only 240 miles long and 80 broad, the summits of its central range approach a height of 11,000 feet. This range, like the mountains in the somewhat smaller island of Hainan, farther south, is in the hands of savages and Malays.

Throughout China, as beasts of burden are scarce and men plentiful, heavy drawing and carting, which we should assign to horses, are there done by men and women.

CHAPTER XXVI.

JAPAN.

JAPAN is sometimes called the Asiatic Britain. The three main islands, Nipon, Shikoku, and Kiushiu, are together somewhat larger than Great Britain, while the northern, Yezo, is about the size of Ireland. The name Nipon, meaning 'rising sun,' is pronounced Ji-pon by the Chinese—hence the English name Japan. The Sea of Japan and the Strait of Corea recall our North Sea and Strait of Dover. The enterprise of the people somewhat resembles the pushing energy of the British. The population, too, is about the same. In general character, however, the Japanese show more resemblance to the light-hearted French than to the more serious English.

While the Chinese continue much as they have been for the last twenty-five centuries in dress, habits, religion, and government, and look upon all 'foreign devils,' as they call Europeans, as barbarians, much as we regard Africans, the Japanese have suddenly taken to copying Western arts, dress, and manufactures. Instead of allowing a number of rich landowners, like the barons in our Stephen's reign, to maintain each his own army of retainers, the emperor now asserts his power, and has one army, dressed and drilled in Western fashion; and

a fleet of iron-clad ships of war, driven by home-made steam-engines, and manned and officered by natives. Even at home in their own towns the wealthier are now adopting our dress. Grooms, runners, and workmen, who a few years ago went about naked, with their skins tattooed in brightly-coloured patterns, are now compelled to wear clothing to satisfy Western ideas. As for religion, intercourse with the West so far seems to have merely unsettled the ancient sun-worship among the wealthier, as well as their more modern Buddhism, without putting any better belief in their place.

Japanese art is just now exerting great influence over English taste. Their love of flowers and birds, and the skill and taste with which they portray them in lacquer-work or porcelain, is surprising. A recent traveller states that the Japanese never heap flowers together in a nosegay or bouquet as we do, but always put a single flower by itself in a vessel to deck their rooms. One day the vessel will hold a lily, the next a primrose, and so on. Thus the eye has leisure to take in the full beauty of form and hue of each flower ; hence their success in picturing those beauties on their wares.

The Japanese islands are of volcanic origin, and form part of that ring of fire which has been traced round the Great Ocean. Fusi-yama, which towers at a height of more than 14,000 feet over the Bay of Yedo, is said to have been formed in three days about twenty-two centuries ago.

Though ten degrees nearer to the equator than the British Isles, the temperature of Japan is little higher than our own. This is owing to the cold current flowing along

the eastern coast, whose effects are not fully counterbalanced by the warm current sweeping along the west coast. Their summers are both longer and hotter than ours, but in winter the cold is severe, especially in the north. Autumn is the pleasantest time. The surrounding seas, owing to the meeting of currents of different temperatures, are subject to fogs, as also to frequent and violent storms.

Down the middle of the islands run ranges of high mountains, which give great beauty and variety to the landscape. The rivers flowing east and west are rapid, and not larger than the British rivers. The shores are so deeply indented as to supply many good harbours. The chief openings are the Bay of Yedo, on which stands the chief port, Yokohama, and the chief city, Tokio, and the Inland Sea between Nipon and the two smaller southerly islands. The Inland Sea being studded with hundreds of hilly islets, is very beautiful. Its great port is Osaka, a city of quays and bridges. At Kioto, near this, is the Emperor or Mikado's palace. From Tokio the distances are marked on the well-kept roads throughout the country. On these roads, horses and runners are kept for the use of travellers. Railways are now being made.

We owe more of our beautiful flowers and evergreen shrubs to Japan than to any other land. Mixed with such trees and shrubs as thrive in our clime, are tropical plants, bamboos, palms, bananas, tree-ferns, camphor, etc. Crops of rice, maize, tea, and cotton are raised, as also barley and wheat.

The islands are also rich in minerals, gold, silver, copper, iron, and coal. Japan sends us enormous

quantities of silk, and takes in exchange our cotton and woollen goods.

The Japanese, like the Chinese, are wonderfully skilful gardeners. On a few yards they can make a miniature garden or park, varying the arrangement as often as they like, and in every case using real dwarfed trees and shrubs.

Yezo.

Yezo was only occupied by Japan when the Russians wrested Northern Manchuria from the Chinese. Its climate and forests resemble the south of Scotland. On Volcano Bay, in its south, are two active volcanoes. The great mineral wealth of the island is as yet undeveloped for lack of good roads. The natives, called Ainos, whom the Japanese settlers treat with the utmost disdain, seem to be of Aryan race, having large round eyes, and bushy hair and beards. They live by fishing and the chase, and are a simple, kindly folk. The same people inhabit the *Kurile Isles*, which, like Yezo, are richly wooded, and afford good fishing and whaling stations.

CHAPTER XXVII.

FURTHER INDIA

HAS about ten times the area of Great Britain, and is formed by long ranges stretching southward from the eastern tableland of Asia. Between these parallel ranges, four great rivers, the Irawadi, Salwen, Me-nam, and Me-Khong, have been for ages bringing down mountain waste to form alluvial valleys.

The natives, except the Malays in the far south, are of Mogholian stock, akin to the Chinese and Tibetans, and, like them, Buddhists.

Lying almost wholly within the tropics, well watered, and surrounded on three sides by sea, the peninsula has a moist, hot climate, and a most luxurious vegetation.

1. *Burman Empire.*

The upper and middle basin of the Irawadi form the empire of Burmah,¹ which is bounded on the north and west by a ring of high mountains, the Patkoi and Yoma ranges, on the east by the Salwen, and on the south by the British province of Pegu, which includes the deltas of the Irawadi and the Salwen. A glance at the map

¹ Area twice that of Great Britain.

will show that the whole of Burmah slopes to the south. On the arrival of the south-west monsoon in May, its summer heat is tempered by abundant rainfall. The heat of the spring months is very trying. The crops grown are rice, maize, wheat, sugar-cane, tobacco, and indigo. The forests are rich in teak and other valuable timber. Gold is found in the rivers ; silver in the eastern mountains, as also iron, coal, copper, lead, sapphires, and other precious stones.

Through the forest roam herds of elephants. There, too, are found the rhinoceros, tiger, leopard, and wild boar. In the farms is no lack of horses, oxen, and buffaloes. About the royal palace white elephants are kept. The king has uncontrolled power over the lives of his subjects, and sadly abuses his power.

The Burmans, though small, are well made and active, with light-brown skin. In the south-east, in the valley of the Salwen, dwell the Shans, the remnant of a race which once peopled the whole of Further India, but who are now rulers only in Siam.

As the delta of the Irawadi is now in the hands of the British, the Burmese have no access to the sea. English steamships sail up the river for 600 miles, as far as Bhamo. Thence over the mountains to Yun-nan run three tedious caravan routes, open to natives alone, closed to the British. On the banks of the great river are ruins of great cities destroyed by earthquake and otherwise ; among them, Ava, the former capital. The present is Mandalay, a walled and moated city, glittering with palaces and gilded pagodas of Buddhist temples.

2. Siam.

The centre of the peninsula is occupied by the Shan States and the kingdom of Siam, consisting chiefly of the basin of the Me-nam. Siam is larger than France and Great Britain together. To the yearly overflow of its great stream, Siam owes its fertility, as Egypt owes its to the Nile. In the north-east, along the central valley of a far larger river, the Me-Khong, dwells a somewhat darker but kindred race, called Laos, chiefly hunters. In the south-west live Malays. There are as many of each of these tribes as there are of pure Siamese, namely, two millions. Bangkok, the capital, about twenty miles from the mouth of the Me-nam, is a city of gilded pagodas and palaces, bamboo houses built on piles, and floating boathouses.

The Siamese have two kings, and regard the superior with the utmost reverence. They are a lazy people, getting all their work done by slaves, and leaving all trade in the hands of Chinese settlers.

Siam exports great quantities of rice. Her great mineral wealth is as yet but little developed.

3. Annam and Cochin-China.

This kingdom, whose name means South Land, has more than twice the area of Great Britain. Being well watered by the Me-Khong and other large rivers flowing from the plateau of Yun-nan, its maritime lowlands produce much rice. Its fisheries supply not only its own people, but those of Southern China. Fearful

typhoons at times work great havoc among the fishermen living along the coast. Otherwise the climate of the sea-board is pleasant. The north-east monsoons from the Pacific bring rain in the wet season, from October to February; while the south-west monsoons, which flood the Ganges, Irawadi, Salwen, and Me-nam from April to September, have no moisture left for Cochin-China and that part of Annam which lies to the east of the high mountains. Annam is the only country besides Ceylon where cinnamon grows.

The French have great influence in Annam. Thanks to them, the river Song Ka is now open to all nations. As this river gives access to Yun-nan, the southernmost province of China, a new trade route may thus be opened to the heart of China. The French hold the fertile delta of the Me-Khong, and the swampy lowlands adjoining. They are there able to raise fine crops of rice, maize, tobacco, cotton, sugar-cane, and indigo, and to fell teak on the overhanging hill forests. Their chief town, Saigon, is a strong fortress and naval station.

4. *Cambodia.*

Wedged between French Cochin-China and Siam, the independent state of Cambodia, a country somewhat larger than Ireland, grows great crops of rice. The trade of the country is carried on mainly by the pushing and business-like Chinese, whose boat-houses line the rivers. In its north-west lies a lake 100 miles long, so full of fish as to attract many fishers to settle on its banks during the dry season.

5. *Malacca.*

The extreme south of the peninsula, about as large as Ireland, is in the hands of the Malays. Receiving constant rain by both monsoons, from the China Sea as well as the Indian Ocean, and lying very near the equator, Malacca is covered with dense jungle and forests, full of tigers, apes, snakes, crocodiles, elephants, and tapirs; and abounds with canes, timber, sago, pepper, and gutta-percha. Its mineral wealth may be guessed from the name Ophir, given to it by the early Portuguese explorers.

The Malays were much given to piracy till restrained by the armed cruisers of European states. Coming from Sumatra, they settled here in the thirteenth century, and drove to the hills a darker coloured race.

The valuable British possessions in these parts have been elsewhere described.

CHAPTER XXVIII.

EAST INDIA ISLANDS.

LYING chiefly in the belt of calms between the two trade-winds and both monsoons, these islands are the wettest on the face of the earth. Hence the luxuriance of their vegetation is equalled only on the banks of the Amazon. One leaf grows large enough to overshadow eight men. They enclose the China Sea in a great curve from the Strait of Malacca to the Channel of Formosa. They are usually classed in two main groups, the Sundas and Moluccas, of which the largest are Sumatra, Java, and Borneo; and the Philippines and Sulus, the largest of which are Celebes, Mindanao, and Luzon. Borneo has as large an area as France and Great Britain together. Like the other islands lying south of the great continent, they are mostly very mountainous.

The animals of Sumatra, Java, Borneo, and the Philippines are of the same kind as the animals of Further India. Yet the separating sea is too wide for them to have crossed by swimming. The floor of that sea, however, is not far below its surface. Hence it is inferred that this group once formed part of the mainland of Asia, from which it must have been sundered by a sinking of the earth's crust.

We have already seen that these islands are subject

to earthquakes, and have many volcanoes, some of which are still active. Volcanic action is known to cause the earth's crust to rise and sink.

East of Java and Borneo, in the Strait of Macassar, the floor of the sea suddenly drops to a great depth. The animals of the islands east of Java and Borneo are akin to those of Australia. This deep trough, then, marks the old sea between Asia and Australia. The latter land, therefore, once included New Guinea, Celebes, and the intervening and adjacent islands. No tigers, oxen, elephants, or apes are found in the latter. Instead of them are found pouched animals, such as the kangaroo and opossum; instead of pheasants, cockatoos. Similarly, in the Asiatic group, the Malays have driven to the hills the original blacks, a race akin to the Papuans of New Guinea and the natives of Australia.

In the Australian group the Papuans remain undisturbed. The seas amid these islands are rarely disturbed by storms. The easterly trade-winds, succeeded for a few months by westerly monsoons, blow so steadily and regularly that the islanders fearlessly ply their swift proas to and fro all the year round. On the broad rivers, and in sheltered creeks, boat-houses are safely moored.

1. *Sumatra.*

The Dutch are paramount in the Sundas. Of the great island of Sumatra, which lies slantwise across the equator, they claim all but the north-west quarter, where the warlike Achinese successfully withstand their power.

With a length of more than 1000 miles, and an average breadth of 130 miles, Sumatra has an area larger than that of the British Isles, while its inhabitants are only two millions. All sorts of tropical fruits and trees grow in the island, but its chief exports are rice, camphor, and black pepper. The latter is shipped chiefly from Bencoolen.

All along the western border stretches a range of high mountains, attaining a height of 12,000 feet. Hence the larger rivers flow eastward through rich black mould, brought down ages ago from the mountains, and form deltas. The whole island is covered with gorgeous tropical forests, teeming with beast, bird, and insect life. The Palembang river is navigable for 200 miles from its mouth.

The islands of Banca and Billiton, off the east corner, have wealthy tin mines, worked for the Dutch by Chinese toil.

2. *Java,*

About as large as England without Wales and the Devonian peninsula, is the richest and most populous of tropical islands. Its volcanic mountains, ranging from 5000 to 14,000 feet in height, form a central ridge for nearly 600 miles along the middle. Towards the east, however, thirty-eight separate volcanoes tower singly above the plain. Some of these still emit smoke, or spit forth sulphureous vapour; but none of them send down lava streams. Mount Semeroe, the highest, reaches 12,150 feet. A hundred years ago a large mountain was enwrapped by a bright cloud, and soon

afterwards sank below the ground, dragging down a tract as large as half Rutland, forty villages, and nearly 3000 people.

The valleys of Java are as beautiful and peaceful as aught that earth can show, but in the dead of night the deep grumbling of the forces pent underground breaks their stillness far and wide.

Early in this century the mid-day sky of Java was for some weeks overcast, and became as dark as mid-night, from a shower of ashes brought by the east wind 300 miles from an eruption of Tambora, a mountain 9040 feet high, in the island of Sumbawa. The ashes reached as far as Bencoolen, more than 1000 miles from the volcano. The uplifted sea rolled over the town at the foot of Tambora, and destroyed 12,000 people.

The uplands of Java, from 2000 to 4000 feet above the sea, have a delightful climate, in which the Dutch settlers cultivate tea and coffee plantations. Below this, the hotter lands produce the usual tropical growths. The mountains are clothed to their summits with magnificent forests.

The native Javanese are Malays, but many Hindus, Arabs, and Chinese have settled among them. Twenty-eight thousand Dutchmen control the whole 19 million of other races. Their seat of government, Batavia, on the west, is a great trading port; as is also Samarang, on the north coast, from which a railroad has been made across the island, through richly cultivated lands, to the south coast. The first Dutch settlement in these parts was on the island of Bantam, a name familiar to us from the small breed of fowls originally brought thence.

3. *Borneo,*

The largest island on the earth, except Australia, Greenland, and New Guinea, exceeds 800 miles in length and 600 in breadth, and is quite free from volcanic disturbance. It has been only partly explored, but is known to be traversed from north-east to south-west by a chain of mountains, one of whose peaks, 'Chinese Widow,' approaches a height of 14,000 feet.

In the forests of teak, gutta-percha, palms, and bamboos, the ape, called the man of the wood, builds his nest in the branches; in the swamps wallow the tapir and wild boar; in the glades browse the deer and buffalo.

The island might support a large population, but has yet only $1\frac{1}{2}$ million of Dyaks, as they are called, a Malay race, but taller and more muscular than other Malays. Many Chinese settlers work in the mines. The Dutch rule in the south and east.

An adventurous Englishman, Sir James Brooke, for many years ruler of Sarawak, effected a great work by putting down piracy, and teaching the Dyaks nobler acts than cutting off men's heads. An English company rent Sabah, in the extreme north, for the growth of coffee, cacao, sago, tapioca, and tobacco. Coal is found here, as at the British island of Labuan.

4. *Celebes.*

This is an oddly shaped island, about the size of England, throwing out four great arms or peninsulas

so that no part of the land is more than seventy miles from the sea. It is less covered with forests than the islands we have just quitted, and affords good pasturage for horses, cattle, and wild buffalo. From this island the Chinese get those gelatinous birds' nests of which they make soup, and the sea-slug, of which they are so fond. Cotton, tortoise-shell, sago, and tobacco are among its other exports. Macassar, in the south-west, is its chief port and depôt. The south has gold, tin, copper, iron, and coal.

On the south-east of Celebes, in and near the island of Timar, are all that remains to the Portuguese of their possessions in these parts. They have the fine port of Koepang for their capital. North of Timar are the Moluccas or Spice Islands, where grows the nutmeg tree, whose fruit is the nutmeg wrapped as a kernel in a fleshy covering of mace. It resembles our pear-tree, and has deep glossy green leaves. Here, too, grows the small evergreen whose flower-bud is the sweet-smelling clove. These beautiful islands belong to the Dutch, from whom therefore we all have to buy our spices.

East of the Moluccas, the great island of Papua, or New Guinea, spreads across 20 meridians. The frizzly-haired natives are so forbidding that little is yet known of the interior. A recent explorer states that Mount Hercules, the loftiest summit in a long range of high mountains running east and west across the country, attains a height of some 32,000 feet. If this be confirmed, it is by 3000 feet the highest peak on the earth.

The surface of the island seems to be well-nigh covered with forests, tenanted by birds of the most

gorgeous plumage. The soil is thought to be very fertile.

North of Celebes are the Philippines, a group of more than 1000 islands, discovered by Magellan when he was returning home from his westward voyage round Cape Horn. Luzon and Mindanao, the two largest, have each an area exceeding that of Ireland. All the islands are more or less volcanic, and very mountainous and beautiful. They abound in all tropical timbers, fruits, and crops. Their seasons somewhat resemble those of Northern India. In November, while the sun is over the southern tropics, the north-east monsoon brings cold dry weather. From March to May the drought and heat are unbearable. In June the south-west monsoon brings the rainy season, which lasts till October.

These islands belong to Spain, and are sparsely peopled, by Malay tribes on the plains, and black-brown, woolly-headed people in the hills.

Manilla, on the west coast of Luzon, exports sugar, hemp, tobacco, cigars, and coffee, westward to Britain, eastward to the United States. Lying about the 120th meridian, these islands are about as far to the east of Britain as they are to the west of California.

CHAPTER XXIX.

OTHER ISLANDS.

1. *Madagascar.*

BEFORE quitting the warm seas in which we have been cruising, we will pay a brief visit to an island which, though only 240 miles from the east coast of Africa, cannot be said to belong to any continent. Stretching nearly 1000 miles north and south, Madagascar has an area as large as Spain and Portugal; and, like that peninsula, is wholly a tableland, from 3000 to 4000 feet in height. Hundreds of volcanic peaks, some nearly 9000 feet high, vary the sameness of the level.

The east side, facing the Indian Ocean and the south-east trade-winds, is well watered, and hence very fertile; but the west side, having scant rain, is barren, save along its few streams.

The Traveller's Tree grows freely in Madagascar. Its leafstalks in the driest weather contain a quart of pure water. The animals, too, are peculiar, being chiefly insect-eaters. There are no beasts of prey. Instead of monkeys there are timid lemurs, which feed at night.

The natives, again, are quite unlike any Africans,



being of Malay race, and speaking a tongue akin to the languages of the East Indian islanders. There are French, as also Arab settlements, on the north coast. The Arabs have introduced African slaves. Indian traders also find their way to Madagascar. Farming and cattle-breeding are the chief employments of the natives, many of whom are Christians. They also weave silk and wool, and dye palm-fibre cloths. The sovereign reigns at Antantarivo, near the middle of the island.

To the French belongs the fertile island of Bourbon, which, like its neighbours, Mauritius and Rodriguez, both British possessions, produces large quantities of coffee, sugar, and spices.

2. Coral Islands.

North-east of Mauritius, along the 73d meridian, on both sides of the equator, are thousands of coral islands, inhabited by an Arab race, and subject to Great Britain. Most of them consist of rings of coral, called atolls, covered with palms or screw-pines, and enclosing lagoons. On the outer side this ring shelves gently down for about 100 yards or more from the edge to a depth of 70 feet, where it suddenly drops sheer down to a great depth.

The Maldives are 500 miles long and 50 miles broad, with atolls arranged in a double row, parted by a sea of unfathomed depth. The largest of these atolls is 88 miles long and 20 miles broad. Some are as small as 3 miles across. Of those that are inhabited,

a few are only 20 feet above the sea-level. All the coral below the surface is alive ; the part above is dead matter, cast up by the battering billows that break incessantly over them, with a roar that may be heard 8 miles off. In some atolls there is only one channel wide enough to allow a ship to pass to the inner lagoon, but there are usually many openings wide enough to allow boats to enter.

Many of the islands which stud the Pacific are like these atolls of the Indian Ocean. Others are mountainous islands, begirt with coral reefs forming a ring two or three miles from the shore. In these the moat varies in depth from 200 to 300 feet, while outside the sea is some miles deep.

The most striking instance of this structure is Tahiti, the largest of the Society group, on the 150th meridian, that is, in time just ten hours behind Greenwich. Its mountains rising to a height of 7000 feet, leave only a narrow strip of plain round the coast. The whole island is covered with coco-palms, bread-fruit trees, bananas, and other tropical growths. It is surrounded by a lagoon 200 feet deep, at a distance varying from half a mile to three miles. Of the great barrier reef off the north-east of Australia, enough has been said elsewhere. The sea enclosed by that reef, the Solomon Isles, New Hebrides, and New Caledonia, is called the Coral Sea, from the coral reefs all around.

It has been suggested that these coral rings are built on the ruins of volcanic craters below the sea, and some believe that these craters have been slowly sinking, and that the corals have kept on building upward to the surface as the floor has sunk lower.

3. Volcanic Islands.

Such of the countless islands of the Pacific as are not of coral formation are of volcanic origin. Of these the most notable are the Sandwich Islands, which have been lately placed under French rule. Hawaii, the largest island in the open Pacific, is crowned by the volcanic peaks of Mauna Kea and Loa, whose tops fall little short of 14,000 feet. On the flank of the latter the great crater of Kilauea may be viewed with safety from the edge,—a real lake of fire, three miles across, which at intervals sinks and rises many feet, furiously boiling, and spouting jets of fire to a great height.

The natives of many, if not most of the tropical Pacific Islands, enjoy an easy life. Bread-fruit trees, coco-palms, plantains, and other fruits, and fish readily caught, enable them with little toil or trouble to supply themselves with all they need. They let the morrow care for itself. Some of the islanders are very combative, and always waging war with their neighbours. Enemies slain in fight are in some cases roasted and eaten. On many of the islands a boat's crew cannot land for water or provisions without the risk of being murdered by savages. Our French neighbours use New Caledonia, an island about 100 miles long, off the east of Queensland, as a convict station. To nations with large fleets of merchant ships, it is very convenient to have possessions scattered about the broad Pacific.

PART III.

THE NEW WORLD, OR AMERICA.

CHAPTER I.

I. Mountains.

AMERICA may be regarded as one continent, stretching in an unbroken mass for 9000 miles, from within a few degrees of the North Pole to within 34 degrees of the South Pole. It has an area of 16 million square miles, of which nearly nine are in the northern section. Each half tapers southward, as is the tendency of the peninsulas of the Old World.

The arrangement of the mountain chains, unlike those of the Great Continent or Old World, is from north to south, or, more strictly, from north-north-west to south-south-east, mainly along the western edge. As has been remarked of the mountains of the Old World, the sharp slope of this great mountain chain is seaward, its long slope landward.

We may trace the range northward from Cape Horn, and the Tierra del Fuego, or 'Fire-land,' as a single

chain bristling with volcanoes, and for the first 1000 miles having its very base washed by the Pacific, out of which the cliffs rise sheer. The Chilian Andes reach their highest elevation in the peak of Aconcagua, which is little short of 24,000 feet.

Reaching the tropics the range widens into the rainless tableland of Bolivia and Peru, traversed by ridges, called Cordilleras, at a mean height of 12,500 feet. On this high plateau lies the lake of Titicaca, larger than our two counties of Suffolk and Essex together.

Towards the equator the tableland is again narrowed to a single chain. Farther north, this chain throws off two spurs, one eastward ending in the heights of Trinidad, another northward to Point Gallinas. The main chain, after dropping to a height of 150 feet as it traverses the narrow Isthmus of Panama, gradually rises where it widens into the tableland of Central America and Mexico.

In the plateau of Anahuac, as this part of Mexico is sometimes called, the volcanic Popocatapetl, the highest summit in North America, falls little short of 18,000 feet.

The eastern edge of this plateau, which has a mean height of 7800 feet, is propped by the great chain known farther north as the Rocky Mountains.

About the 40th parallel, where the plateau covers nearly 20 degrees of longitude, 25 peaks of this range exceed 14,000 feet. Reaching their highest elevation (16,760) in Mount Hooker, on the 52d parallel, the Rocky Mountains gradually dwindle to bluff heights on the shores of the Arctic Ocean.

Oddly enough, in this loftiest part of the range are the four lowest passes over the Rocky Mountains. This is of great importance, as enabling a railway to be constructed from Montreal through British territory to the Pacific.

The western edge of the Mexican plateau, named the Sierra Madre, passes northward into California, under the name of the Sierra Nevada, where it attains a height of 15,000 feet. Continuing northward through Oregon, Washington, and British Columbia as the Cascade range, it curves westward through Alaska and ends in the Prince of Wales Peninsula on Behring Strait.

Parallel to the foregoing, the Coast range which traverses the narrow Californian peninsula may be traced along the shores of Oregon and Washington, and through Vancouver Island, till it is lost in the mazes of the Queen Charlotte Islands. Reappearing to their north, the Coast range (there sometimes called the Sea Alps), attains a height of nearly 15,000 feet in Mount Fairweather and the active volcano of Mount Elias. Bending westward, it forms the peninsula of Alaska and the Aleutian Isles, a ring of stepping-stones between North America and Asia.

Thus the Rocky Mountains are the eastern edge of a great tableland, varying in width from 400 to 900 miles, of which the Cascade and Coast ranges form the western fringes. They are the northern continuation of the loftier and narrower chain of the Andes.

Confronting the Rocky Mountains, at a distance of some 1200 or 1400 miles, the richly wooded Alleghany Mountains form the eastern rim of the great basin of

the Mississippi. Skirting the east coast from the right bank of the St. Lawrence, at a distance of less than 80 miles from the Atlantic, they curve thence inland to the south-west till they leave a seaward slope upwards of 200 miles in breadth. Their scenery is peaceful rather than grand or wild, as their ridges are of even height, nowhere reaching 7000 feet.

2. *Rivers.*

On the north-east the water-parting between the basin of the Mississippi and the St. Lawrence, called the Height of Land, nowhere exceeds 1500 feet above the sea-level. On the north-west the head-waters of the Missouri and the Saskatchewan are parted by ground equally low. The parting between the Churchill and the Mackenzie is so ill defined, that Lake Wollaston sends its overflow to both of these rivers. In short, the whole expanse of nearly 3000 miles from the Arctic Ocean to the Gulf of Mexico is well-nigh one vast plain, crossed by a low tableland from Labrador to Wyoming. The north and north-east of this plain are studded with countless lakes, surpassing in size and number the vast lakes of Central Africa. Lake Superior, as large as Ireland, Huron and Michigan, each little less than Scotland, Erie and Ontario, form an unrivalled chain of inland fresh water seas, all drained by the great river St. Lawrence. Each of the northern rivers also broadens into wide sheets of fresh water.

The position of the mountains of America forbids

much drainage to the Pacific. In South America not a single large river flows westward. In North America, however, the Yukon has worn for itself a channel, 1500 miles in length, through the highlands of Alaska, between the Cascade and the Coast ranges. The Columbia has gnawed its bed westward through the northern tableland; and farther south the Colorado has worked out a groove for itself by a narrow gorge, from 2000 to 5000 feet below the level of the plateau.

Between the two latter rivers lies the Great Basin, which is drained into the Great Salt Lake, 4200 feet high, and has no seaward outlet. The northern drainage finds its way to the Arctic Ocean by the great river Mackenzie, which is upwards of 2000 miles in length. But the greater part of the drainage finds its way to the Atlantic.

The Saskatchewan, Churchill, and Nelson flow to Hudson's Bay, the St. Lawrence to its own gulf, the Mississippi to the Gulf of Mexico. East of the Alleghanies the drainage is carried to the Atlantic by many shorter streams, which in our country would be called great rivers.

In South America the drainage of the Northern Andes is carried north-eastward by the Orinoco, and eastward by the Amazon. The head-waters of these two rivers have channels common to both streams, but their lower courses are parted by the plateau of Guayana. The mountains of the West Indies form connecting links between this plateau and the Alleghanies. The eastern rim of the great basin of the Amazon is formed by the Organ Mountains of Brazil, which reach a height of 7500 feet. The great estuary of La Plata gathers up the

drainage of the Southern Andes and the southern plateau of Brazil.

3. *Climate.—Products.*

In this general survey of the surface of America we have noted two rainless regions near the west coast, one in the north, the other in the south. Thence issue the north-east and south-east trade-winds of the Pacific. Blowing from a colder to a warmer clime, these winds suck up all moisture as they pass. Hence the parched tablelands of the Great Basin, and of Bolivia and Peru.

On the eastern side of the continent, again, the north-east and south-east trade-winds of the Atlantic shed moisture on the eastern slopes of the Alleghanies, Rocky Mountains, and Andes. Hence the abundant waters of the Mississippi, and the yet more unbounded supplies of the Amazon. Again, the northern and extreme southern parts of the west coast lie in the path of the south-west and north-west return currents from the tropics to the poles. Hence Alaska and British Columbia in the north, and Chile in the south-west, have a copious and constant rainfall.

In the east of North America, as in the east of Asia, the winters are very cold, even as far south as the 25th parallel. This cold is partly due to the icy Labrador current.

The extreme north of North America, like that of Eurasia, is so cold that only mosses and lichens grow there. In summer, owing to the length of the days allowing heat to be stored up, the frozen soil is turned to mud, and breeds swarms of mosquitos. The whole

northern coast is fringed with hilly islands, which lift dark peaks above their eternal snows, and are haunted by polar bears. Greenland, the largest of these islands, is thought to be made up of many islands joined together by ice. The whole land, more aptly once named *Whiteshirt*, may be almost described as one vast glacier; yet even here dwell a few thousand men, chiefly Eskimos. The Danish settlement of *Upernavik*, on the west coast, is less than 1200 miles from the North Pole. Whalers call there on their way northward as they pass along the west coast of Greenland. They return homeward along the shores of *Baffin Land*.

What a contrast between these frozen wastes of North America and the tropical forests in the north of South America! Words cannot picture their wealth of vegetation, their endless groves of tall palms, their lianas (or creepers), tying tree to tree with such matted growth that animals are forced to burrow their way by narrow paths and tunnels, which they keep open only by passing through them frequently. Through these woods, from flower to flower, flit lovely little humming-birds, flashing like living topazes, emeralds, sapphires, and rubies; while from bough to bough leap chattering monkeys, hanging on by their tails when they would reach some dainty nut below. Over the surface of the water the royal water lily spreads its gigantic leaves. Macaws, in gorgeous liveries of red and green, or blue and orange, and toucans, with enormous bills, break the deep silence of the vast forests with their harsh screams. Over the naked crags of the lofty Andes soar the great condor and other bare-necked vultures, whose task it is to act

as scavengers and sextons, burying in their stomachs the flesh of dead animals. From his eyrie in the mountains the golden eagle swoops on his prey.

Over the hill pastures of Peru and Chile roam herds of llamas, vicuñas, and alpacas. The llama, as a beast of burden, recalls the camel of Asia and Africa. About the crags of the Rocky Mountains bound the great sheep called the bighorn, as large as the Tibetan argali. Over the boundless prairies tramp, with a noise like thunder, countless herds of bison, with grand massive heads and shaggy hides. Among the forests that clothe the mountain sides, the hunter encounters the great grisly bear, whose enormous weight enables him often to hug his pursuer to death, ere his thick hide admits a deadly bullet.

Among other animals found only in América may be named armadillos, ant-eaters, sloths, racoons, chinchillas, and rattlesnakes. The stately lion of the old world is here replaced by the cowardly puma, which finds its way from far north to south ; the royal tiger of Asia, by the jaguar, which haunts tropical woodlands ; the crocodile, by the smaller alligator or cayman ; the elephant, by the tapir ; the wild boar, by the peccary.

The opossum represents the pouched animals of Australia. The great boas are probably larger than any snakes found even in Africa. The wild turkey, from which our home turkeys spring, is a native of American woodlands. Over the treeless plains or pampas of South America roam herds of ostriches smaller than those of South Africa ; and flocks of guanácos, a buff-coloured, soft-furred animal, like a large goat.

To America we owe the potato, tobacco, maize,

quinine, arrowroot, tapioca, and cacao, commonly called cocoa. In the north grow the maple tree, from which sugar is got; the hickory wood, so light, supple, and strong, for rods, carriage wheels and shafts; and miles of lovely rhododendrons, azaleas, and magnolias. From Mexico southward the cactus everywhere lifts its stiff formal arms. On the eastern hill-sides thrive the tall and graceful cedars, which supply wood for pencils. High on the Sierra Nevada tower gigantic redwoods and sequoias. The latter have been found 4000 years old, with stems 30 feet thick and 300 feet in height. The moisture blown from the Pacific by the prevailing south-west winds of the north temperate zone, fosters the growth of these huge pines.

4. *People.*

The natives of America are called Red Indians, because the early discoverers of the New World deemed it the eastern side of India. Whether or no they are akin to the Mogholian races of the Old World is a moot question; but with the exception of the stunted Eskimos of the Arctic regions, who are clearly akin to the Lapps and Samoyedes of Russia, they seem to be all of one stock. This is shown by their hundreds of languages, all clearly derived from one root. The 'Redskins' of to-day are mostly savages, dwelling in tents of skin called wigwams, and living by the chase or by fishing. They much dislike confinement to a limited area, and tilling the soil. Small-pox and fire-water, as they call strong drink or ardent spirits, have

worked sad havoc among the northern tribes which have come into contact with the whites or 'pale faces,' as they call them. These and other causes have so thinned their ranks that there are now, it is thought, only 15 millions in the whole continent. They are mostly of a good height and well built; their smooth skin varies in tint from yellow to brown. The nose is large and beaked; the eyes small, black, and deep set, with the outer corners upturned; the cheek-bones prominent. The forehead is low and broad, their black hair straight and coarse. They are the only savages yet found who worship God as a Great Spirit. They have the same reverence for the memory of their fathers which has been noted in the Chinese, and make long and toilsome journeys to visit their tombs. In Mexico are remains of a people named Aztecs, who built great cities and temples, tilled the soil, and worked in metals. They flourished, so far as can be ascertained, about the twelfth century. Human sacrifices formed part of their religious worship; and they had courts of justice, and lived under a strict and severe code of laws.

The Aztec empire was still standing when the Spanish leader Cortes landed at Vera Cruz in 1519. How, with a handful of Spaniards, he became master of this great empire, is one of the strangest, most thrilling, and touching tales in modern history.

On the high tableland of Peru, too, before the tenth century, dwelt a people who, like the Aztecs, built great cities and temples. About the time when William the First overran England, another people, called the Incas, or Children of the Sun, overcame this older race, and established a vast empire. Here dwelt 30 millions of

people, in the enjoyment of good government, buildings and roads, and well-skilled in the arts.

The tale of the treachery and cruelty by which the Spanish adventurer, Pizarro, conquered Peru, is far from pleasant reading. Later, the valley of the Amazon was overrun by Portuguese, to which race it still mainly belongs.

From Mexico southward, then, America is now tenanted partly by men of Spanish or Portuguese descent, partly by half-breeds, the offspring of these Malederth natives, and partly by the old native races.

North of Mexico, the inhabitants are almost wholly the offspring of British, German, Dutch, and French settlers, or African negroes. The latter were originally introduced as slaves to do field work in heat fatal to white men, but are now free citizens of the United States. America is the continent of republics, that is, of states which are ruled by the people for the people. Brazil is the only monarchy in South America. The Dominion of Canada is subject to the British Crown. Through the heart of South America roam mounted Indians, who keep aloof from the settlements of the whites, save when at times they are tempted to plunder. Their modes of torturing their prisoners are so horrible that the whites would rather die than fall under their power.

CHAPTER II.

THE UNITED STATES.

To the account given of the northern half of North America in our description of the British Empire it is not necessary to add more than this, that the great basin of the Saskatchewan seems likely in the course of a few years to attract emigrants from Europe. It is found that the winters there are not nearly so severe as in tracts much farther south on the east of the continent, and that the soil is capable of bearing heavy crops of wheat with little toil. The railway now in course of construction across the continent will open up this valuable corn land, which is in the latitude of our southern counties, and has daylight seven hours after England.

Alaska, the north-western peninsula of the continent, was formerly held by Russia, but is now under the government of the United States. Like Tierra del Fuego in the extreme south, Alaska is one of the rainiest, or rather snowiest, of cold countries, lying as it does in the latitude of Norway, and exposed to the prevailing south-west, as Cape Horn to the north-west winds blowing over the Pacific. It is a desolate tract of forest-land, twice as large as Spain, and of value chiefly as a sealing and trapping station. The coasts abound with seals and

sea otters, whose fur skins are much prized. The great river Yukon, whose mouth is frozen from October to June, teems with salmon, and its steep banks are well lined with valuable timber trees.

The main possessions of the United States form a compact land lying wholly within the north temperate zone, with a breadth of some 2500 miles from east to west, and about half as much from north to south. The area of this vast tract is about equal to that of Europe without her southern peninsulas, and nearly forty times that of Great Britain. The growth of its population during the present century has been very striking. From 1800 to 1880 it has risen from six to fifty millions. At the beginning of this century the country consisted of only thirteen States, lying on the Atlantic plain, that is, the long eastward slope of the Alleghanies. Westward from this range to the Pacific, where now is heard the shriek of the railway whistle, the Redskin and the bison roamed at large.

1. *The Atlantic States.*

The Atlantic States, stretching over twenty degrees of latitude, have of course a cooler climate in the north than in the south, and their winters are colder than the corresponding latitudes on the Pacific sea-board. They are rich in coal and iron, timber, good soil, and navigable rivers. These as they fall from the hills to the plains supply water-power to work machinery. Hence busy towns have sprung up just at this part of the rivers. Along the greater part of the sea-coast lies a sandy

plain, farther inland a hilly belt, beyond that rise the ridges of the Alleghanies. In Maine the winters are very severe ; in Florida and Carolina mild enough to allow the growth of rice, oranges, and cotton. Virginia, midway, grows good tobacco.

The largest and most important city in these states is New York, in the latitude of Rome. Built on a narrow island off the mouth of the river Hudson, and having a spacious harbour, enclosed between Long and Staten Islands, and surrounded by the suburbs called Brooklyn, Jersey City, and Hoboken (each in itself a large town), New York now rivals London as a great centre of commerce. Its main street, Broadway, is for miles lined with grand buildings. Its river is connected with the great lakes by the Erie Canal, between Albany and Buffalo, which enables vessels to avoid the long detour by the river St. Lawrence. New York is often called the 'Empire City,' and its state the 'Empire State.' Founded by the Dutch in 1621, it first bore the name of New Amsterdam.

Next to it in size and wealth ranks Philadelphia, or Brother's Love, capital of Pennsylvania ('Penn's Woodland,' 'the Keystone State'), on the river Delaware. It is the greatest manufacturing city in the States, and more populous than Glasgow.

As a port and place of business, Boston ranks second to New York. It is the chief town of Massachusetts, or the Bay State, which is one of the New England States, as the North-Eastern States are called. It is noted for its literary society, public libraries, and its neighbouring Harvard University at Cambridge. The names Boston and Cambridge both recall our eastern

counties, from which came many of the Pilgrim Fathers, or Puritans, who settled here in 1620 to escape James I.'s persecution.

The Senate and House of Representatives, who make laws for the whole country, sit in congress at the city of Washington on the river Potomac. Here, too, during his four years of office, resides the President. Here also are the Government offices.

Baltimore, the capital of Maryland, a little to its north-east, on Chesapeake Bay, is a large and thriving seaport.

Pittsburgh, on the Ohio, the great centre of the Pennsylvanian iron and coal-field, may be called the American Birmingham.

In the Southern Atlantic States are fewer large towns, because they are not manufacturing but agricultural districts. Richmond, capital of Virginia, which, as the oldest English settlement, is called the Old Dominion, has large tobacco warehouses and factories on the banks of the river James. Norfolk, at the southern entrance of Chesapeake Bay, has a grand harbour; as also has Charleston, the chief town of South Carolina, which exports large quantities of rice.

2. The Central States.

The Central States occupy the enormous basin of the Mississippi, or 'Father of Waters.' This mighty river has its source in the small Lake Itaska, in the the tableland of Minnesota, at a height of some 1500 feet above the sea. The Missouri, however, which joins the Mississippi in the middle of its course, is a

far larger and longer river at the confluence than the stream in which it loses its name. Before their confluence each river is half a mile wide, and strangely enough the two together keep the same breadth during the 1300 miles of their united course. The Missouri ('Smoke Water') draws its head-waters from the eastern slopes of the Rocky Mountains in Montana, between the 45th and 48th parallels, and winds with a southeasterly course, by cataracts and rapids, through gorges, forests, and prairies, for 3000 miles before it joins the Mississippi near St. Louis. Its main feeder, the Platte, or Nebraska river, flows eastward from Wyoming. Engineers have availed themselves of the valley of the Platte river to construct the Central Pacific Railway. It crosses the Rocky Mountains by the Laramie plains, at a height of 9000 feet, and thence drops to the Pacific by Great Salt Lake and the valley of the Humboldt. Almost parallel to the Missouri flows the great Arkansas, a river upwards of 2000 miles long, which brings eastward the drainage of the lofty peaks of the Rocky Mountains in Colorado. Farther south the waters of the Great River are swollen by the Red River from New Mexico. The basins of the Arkansas and the Missouri are parted by the Ozark Mountains. Many of the feeders of these western rivers issue from narrow gorges or cañons, overhung by precipices many hundred feet high. On the left bank the Mississippi receives the western drainage of the Alleghanies by the Ohio. This river flows upwards of 1000 miles through some of the finest states of the Union, and has six navigable feeders. The length of the Missouri-Mississippi is 4350 miles. The area of its basin is nearly $1\frac{1}{4}$ million

square miles, and its navigable waters 35,000 miles in length. A hundred of its feeders are larger than the Thames. In spring, when the snow melts, the navigation is often made difficult by floods, which have been known to sweep down whole forests matted together.

These and enormous quantities of mud are carried down yearly to the great delta, thrust out 50 miles into the Gulf of Mexico. This unhealthy delta is pitted with shallow salt lagoons and mud banks covered with brushwood, which harbour alligators. Eked out by canals, the Mississippi supplies a waterway between the Gulf of Mexico and that of St. Lawrence.

The North Central States in this great basin are almost wholly of prairie land. Having a fertile soil, good waterways, and great mineral wealth, they are able to send abroad enormous quantities of wheat, pork, bacon, beef, cheese, wool, copper, and timber. Their chief towns are—in Illinois, Chicago on Lake Michigan, which sprang in a few years from a small settlement to a great city; in Ohio, Cincinnati and Louisville on the river Ohio, Cleveland on Lake Erie, St. Louis on the Mississippi, a little south of its confluence with the Missouri; Detroit in Michigan, or the Lake State; and Milwaukee, a great corn mart in Wisconsin, on Lake Michigan. All about the lakes there is a great trade in timber, or, as it is there called, lumber.

In the South Central States grow cotton, rice, and sugar-cane. Their chief town, New Orleans, nearly a 100 miles above the mouth of the Mississippi, is the greatest cotton mart in the world. The State of which it is the capital, originally colonized by the French, was named after their King Louis xiv.

3. The Western States.

The thinly peopled eastern slopes of the Rocky Mountains, and the plains at their feet, are grassy, treeless tracts, affording herbage to countless herds and flocks, but subject to drought. This is especially the case in the great western American desert between the Missouri and the mountains. The plateau of the Rocky Mountains has a cold dry climate, with good pasturage in the valleys, and rich mines of gold, silver, copper, lead, and coal.

In the north-west corner of Wyoming a remarkable tract in the Rocky Mountains, surrounding the source of the Yellowstone river, has been set apart by the Government as a national park. Boiling springs and fountains, grand waterfalls, deep gorges, and high peaks, noble scenery and bracing air, are its great attractions.

Westward from the high plateau propped by the Rocky Mountains, the land slopes to the Pacific. The tableland, whose height varies from 4000 to 8000 feet, is mostly dry and barren, though rich in mineral wealth, especially in Nevada. But the western slopes, being plentifully watered from the Pacific, are covered with splendid forests, and their valleys have a climate fitted for the growth of the choicest fruits and grains. Hence California, with its gold mines, indented sea-board, fine harbours, and 'golden valley,' is the wealthiest of the Western States. San Francisco, commonly called Frisco, gathers up the trade of Western America, and trades with China and Japan, some 7000 miles across the Pacific. It was a mere village in 1847, when the discovery of gold suddenly made it a great city.

The most remarkable thing in the Pacific slope is the course of the great river Colorado, which rises in 'the Parks' in the territory of Colorado. Both the main stream and its feeders have gnawed their way through a succession of tablelands by deep gorges called cañons.¹ The largest of these is 300 miles long, and its sides rise from 1000 to 5000 feet sheer up from the river's edge. Thus deprived of all streams, the tableland above is, of course, hopelessly barren. The basin of the Colorado, which has three times the area of Great Britain, is parted from 'the Great Basin' of Nevada and Utah by the Wahsatch Mountains, which are 60 miles broad, and whose north-eastern drainage flows into salt lakes. The chief of these is that on which stands the Mormon settlement of Great Salt City.

The Californian gold diggings lie mainly in the bed of the Sacramento river, which pours into the harbour of San Francisco the western drainage of the Sierra Nevada.

We send our manufactures to the United States, and take in exchange cotton, wheat, meat, and timber. Though so newly settled, the States are better provided with railways and telegraph wires than Europe.

It may be well to note that the latitude of the States is that of Southern Europe, the Black and Caspian Seas, Afghanistan and Japan. When it is noon at London, and midnight in the Fiji Isles, it is about seven in the morning at New York, six at New Orleans, and four at San Francisco.

All forms of religion are tolerated in the United States, but the great majority adopt some of the many

¹ Pronounced canyons.

forms of Protestant worship and belief. Common schools are supported by the state all over the land, and open to every citizen. In the more sparsely peopled and newly settled territories, however, distance is fatal to attendance at school, so that the Americans are on the whole behind ourselves and Germany in education.

CHAPTER III.

MEXICO.

MEXICO is the huge wedged-shaped tableland lying between the two oceans where the northern continent tapers southward. Its area is about a fifth of that of the United States, and about eight times larger than that of Great Britain. The western edge of the plateau is formed by a continuation of the Sierra Nevada under the name of the Sierra Madre, its eastern by a prolongation of the Rocky Mountains. On the borders of Guatemala the two ranges merge into that great chain which has been already traced northward along the Pacific shores of South America. The surface and climate of Mexico somewhat resemble that of the Abyssinian tableland. Its plateau presents sharp slopes to both oceans. Its latitude is that of India.

From the plain of Texas, Mexico is parted by the Rio Grande, or Great River. As it flows from very high ground, this river, though so long, has a swift course, and is navigable for only 60 miles from the Gulf of Mexico—that is, no higher than our little Thames.

The splendid city of Mexico, in the southern part of the plateau, stands nearly 8000 feet above sea-level, surrounded by large lakes, and begirt by a distant ring of volcanic peaks, two of which exceed 17,000 feet in

height. The lower of the two, Orizaba, on the east, is called Star Mountain, because its burning crater is always seen at night gleaming above its snowy dome. The loftier Popocatepetl, on the south-east, is also in a constant state of eruption. The cone of Jorullo was said by the natives to have been upheaved in a single night, about the middle of last century, to a height of 1700 feet above the plain, along with many smaller burning cones, which lie scattered over a space of three or four square miles.

Mexico, like Abyssinia, has many climates, according to its varying height. On the hot sea-board and lands below 2000 feet, infested by yellow fever owing to the decay of rank vegetation, grow tropical fruits and crops. Between 2000 and 5000 feet grow maize and other crops of Southern Europe. In the higher regions are pastures and pine forests. Many of the rivers cut their way through deep cañons.

The cochineal insect, which gives a rich crimson dye, is a native of Mexico, and feeds on a cactus which grows there freely.

The government of the country, by a President and Congress, resembles that of the United States, but is as weak and unsettled as that of its northern neighbour is firm and orderly. The Mexicans, both Spaniards, half-castes, and Indians, are Roman Catholic in name, and very ill educated.

Under good government, and with good roads, the country should thrive well and have much commerce, for besides a good climate and rich soil, it has some of the richest mines in the world. But highway robbery and other lawless violence of man mar what nature has

done for the land. Vera Cruz, its chief Atlantic outlet, has an unsafe and unhealthy roadstead. Acapulco, however, its main Pacific seaport, has a fine harbour. Both ship to foreign countries sarsaparilla, jalap, vanilla, coffee, sugar, cotton, and metals.

CHAPTER IV.

I. CENTRAL AMERICA

Is a series of tablelands varying in breadth from 70 to 300 miles, and having about twice the area of Great Britain. The plateau is here and there furrowed by deep valleys and flanked by active volcanoes. Nowhere else, save in the East Indies, are earthquakes so common. Towards the Atlantic a deeply indented coast slopes so gently that low banks extend far out to sea. The smooth Pacific coast-line sinks down steeply to the ocean floor. Both coasts, however, have many good harbours, and some navigable rivers. It was long thought by many that the large navigable lake of Nicaragua with its outflowing river the San Juan, offered the easiest course for a canal between the two great oceans. Farther research, however, has led Baron de Lesseps, the engineer of the Suez Canal, to make his cutting across the narrowest part of the Isthmus of Panamá.

Though within the tropics, their height above the sea gives to many parts of Central America a healthy and temperate climate. Lying in the path of the north-east trade-winds, its eastern slopes are abundantly watered from the Atlantic, and are therefore well clothed with forests, containing, among other woods, mahogany,

cedar, and logwood. India-rubber, sarsaparilla, balsams, and cochineal, are among the other products of the country. The inhabitants, as in Mexico, are Spaniards, half-castes, and Indians, with a few negroes. Besides British Honduras, or Belize, there are five independent republics, of which the most thriving, Costa Rica (Rich Coast), on the 10th parallel, has a good outlet on each sea.

2. WEST INDIES.

These islands, lying in a curve from the narrows of Florida to the mouth of the Orinoco, enclose the Caribbean Sea on the north, and also form a barrier between the Atlantic and the Gulf of Mexico.

They are usually classed in three groups: (1) the Greater Antilles—Cuba, Hayti, Puerto Rico, and Jamaica, all large islands; (2) the Lesser Antilles—volcanic mountain-tops of various sizes; (3) the Bahamas—low coralline rocks, forming a barrier on the north of Cuba and Hayti.

Of the Lesser Antilles, the easternmost, lying along the 62d meridian, in the path of the north-east trade-winds, are called the Windward Isles; the southernmost, lying off the coast of Venezuela, between the 10th and 12th parallels, are called the Leeward Isles.

Jamaica, and such of the Lesser Antilles as are British possessions, have been elsewhere described. Midway between the peninsulas of Florida and Yucatan, Cuba, the pearl of the Antilles, belongs to Spain. It is nearly as large as England, being 750 miles long and 70 broad, and has a central ridge running east and west

throughout its length, crossed by a coast range in the south-east. Its plains yield more sugar than any other country, as also good tobacco, cotton, and coffee. Havana, or the Haven, on the north coast, is the finest port in the West Indies, and a very handsome city. The dust of Columbus lies in its cathedral.

Lying near the Tropic of Cancer, Cuba has its rainy season at mid-summer, whereas the islands farther south have two rainy seasons,—one before mid-summer, when the sun is passing northward; another after mid-summer, on his return southward. During the rains, yellow fever, caused by decaying vegetation, haunts the low-lying coast-lands; for the vegetation of the West Indies is not much less rank and luxuriant than that of the East Indies.

Hayti, or San Domingo, about the size of Scotland, was the site of Columbus' first Spanish settlement. Its mountains, with peaks exceeding 9000 feet, are clothed from head to foot with fine timber forests. During the last hundred years the island has been the scene of many a bloody struggle between negroes, mulattoes or half-castes, and Frenchmen. The upshot has been the expulsion of the whites, and the formation of two independent republics.

Puerto Rico, the remaining large island, about the size of Devon and Cornwall, is as highly cultivated by its Spanish owners as Hayti is the reverse.

The Lesser Antilles belong, some to the English, some to France, some to Holland, some to Spain.

Their products are such as grow in most tropical lands,—coffee, sugar, cacao, cotton, tobacco, spices, pepper, pine-apples, bananas, and other fruits. Most of the

inhabitants are negroes ; but there are whites and half-castes.

In August and September fearful hurricanes now and then work sad havoc on these beautiful islands, lifting off roofs, felling houses, destroying crops, and hurling trees in the air.

The whole of the fifty-four inhabited islands now maintain less than five million inhabitants. They could readily support eight times as many.

CHAPTER V.

SOUTH AMERICA.

WE end our survey of the earth as we began, with a continent whose greatest breadth and widest river-basin lies about the equator. The outline of South America is even simpler than that of Africa, being indeed so even that it has only 12,000 miles of coast. Resembling Africa in this respect, it surpasses it in being well pierced by navigable rivers opening into the Atlantic, whereas Africa has but one river which admits sea-going ships far inland. The South American rivers supply 55,000 miles of waterway.

This, of course, is due to the position of the mountains along the west coast, and the very gradual slope of the land eastward. Strange to say, the rivers of the three great river-systems are so placed that a canal of four miles length, between two of the feeders of the Madeira and the Pilcomayo, would enable boats to pass from La Plata to the Amazon; while the head-waters of the Amazon and the Orinoco are actually joined by the Casiquiare, a river as large as the Rhine.

The great mass of South America, which has two-thirds of the area of Africa, and nearly twice that of Europe, consists of these three great river-basins.

As nowhere else on earth is there a chain of moun-

tains so continuously high as the Andes, so too nowhere else are there such continuous tracts of level soil, or such boundless forests.

The llanos in the north-west are so flat that only by a levelling instrument can any rise in the ground be detected for hundreds of miles. From April to October, while the north torrid zone, lying under the vertical sun, has its rainy season, these llanos become sheets of water. These flood waters, further swollen by those of the low-banked Orinoco, driven inland by the north-east trade-winds, often form wide lakes.

So many animals are drowned in its few hollows during the rainy season, that the ground keeps the smell of musk, common to many South American animals. When the waters subside, the llanos are at once mantled with rich herbage, pine-apples, and other quick-growing plants. Drought, however, soon burns up the grass and fills the air with dust. If a spark chance then to drop on the parched grass, the fire spreads so swiftly that thousands of creatures are overtaken by the flames, and the scorched soil remains for years bare and herbless.

The basin of the Amazon, for more than a million square miles, is almost entirely covered with a dense forest, so thickly matted together by creepers that the rivers give the only means of passing to and fro.

From east to west this forest stretches for 1500 miles, from north to south its breadth varies from 350 to 800 miles. The damp is such that before dawn a blue mist rises from the soil. At sunrise the screams of the parrots, toucans, and macaws, and the chattering and howling of the curly-tailed monkeys and larger apes, give life to the leafy wilderness, whose shade the sun

is powerless to pierce. But at noontide the stillness is death-like. By night the roar of the jaguar, or the bellowing of the cayman, at times startle the gloom.

The main river which drains these vast woods is more than 200 feet deep as far as 1600 miles from its mouth, and so broad that 300 miles inland its banks cannot be seen from mid-stream.

Many of its feeders are larger than the great rivers of Europe. In summer, when the sun is over the northern tropic, its northern feeders are flooded; in winter, when the sun is above the southern tropic, its still greater feeders from the south are flooded. Like the African Congo, and from the same causes, this great river twice a year becomes a vast lake.

Southward from the great forest spread the level treeless plains known as the pampas. Their northern reaches, carpeted with long tufted grass bedecked with flowers, afford pasture to herds of horses and cattle. In places these plains grow thistles 10 feet high, and so thick and thorny as to be impenetrable. Along the right bank of the river Paraguay stretches the great sandy desert of El Chaco, in the middle of which grows nothing but aloe and cactus plants. Between the pampas and the Andes, again, is a barren tract of swamp and bogland, which the rains swell to vast lakes. Overflowing, they cover the pampas with a coating of mud. Here, too, flood and fire destroy millions of animals. The southern end of this great plain, for 800 miles, is a desert of shingle, varied with thistles and thorns.

1. Columbia.

In tracing the Andes we found that north of the equator the range splits into three ridges. The high tableland propped by these ranges, together with the upper waters of the Orinoco, form the United States of Columbia. To these belong also the narrowest part of the Isthmus of Panamá. The whole area of Columbia is four times that of Great Britain.

Of the three ridges, the central attains in Mount Tolima a height exceeding 18,000 feet. The inner drainage of the range, flowing northward in parallel streams, forms the river Magdalena, which is navigable for some 500 miles. The great height of the plateaux on the east makes the climate very healthy and agreeable. Vast herds of cattle graze the grassy uplands sloping to the Orinoco, while the usual tropical crops and fruits thrive in the valleys, and the hills abound in precious and useful metals. But for lack of good roads and enterprising inhabitants, the resources of this fine country are as yet very imperfectly developed.

The capital, Bogotá, stands on the eastern ridge, nearly 9000 feet above the sea. Besides the port at the mouth of the Magdalena, are Panamá on the Pacific, and Colon or Aspinwall on the Caribbean Sea. Between these ports runs a railway. A ship canal, which will not only halve the journey from Europe to the Pacific, but offer a far less dangerous route to China, is already in progress. We must not quit Columbia without naming the group of mountains called Santa Marta, near the coast by the mouth of the Magdalena. Their peaks, towering 19,000 feet above

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the sea, serve as a landmark to sailors far away on the Caribbean Sea.

2. *Venezuela.*

When the Spaniards first sailed into Lake Maracaybo, they found native huts built on piles in the lake. As this reminded them of Venice, they gave the country around the name which it still bears. The rule of the republic extends over an area twice as great as that of France, consisting—(1) of the basin of the Orinoco; (2) of a spur of the Eastern Andes, running for 300 or 400 miles along the shores of the Caribbean Sea; and (3) on the south-east of wooded highlands, which part the basins of the Orinoco and the Amazon.

In the south of Venezuela the river Casiquiare, before mentioned, forms a natural canal between the upper Orinoco and the Rio Negro, a feeder of the Amazon. The Orinoco is navigable throughout the whole of Venezuela, and by its tributaries far into Columbia. The hollows of the coast-range shelter sugar and cacao plantations. Caracas, the capital, which stands nearly 3000 feet above the sea in a beautiful valley, besides cacao, exports coffee, indigo, tobacco, and dye-woods. But the chief wealth of the state lies in its cattle, horses, and sheep, reared on the llanos or grassy plains of the uplands sloping to its great river. Much copper from the mines of Aroá is shipped from the north-west.

The great lake Maracaybo, which receives the drainage of the middle and eastern of the three ranges, is connected with its gulf by a narrow strait.

3. Guayana.

Parting Venezuela from Brazil, and the delta of the Orinoco from the mouth of the Amazon, lies a wedge of densely wooded highlands, drained by the Essequibo, Demerara, Corentyn, Maroni, and some smaller rivers. The western part, held by the British, has been elsewhere described. The middle district is held by the Dutch, whose seat of government and chief trade centre is the well-built town of Paramaribo on the river Surinam.

French Guayana has been hitherto used rather as a convict station than as a means of supplying France with sugar, pepper, and other such tropical growths. The products of Guayana are similar to those of Brazil, described hereafter. Cayenne, the capital, a fever stricken, unhealthy town, gives its name to the red pepper obtained from the capsicum, which grows wild there.

4. Ecuador.

The republic of Ecuador, lying, as its name implies, on the equator, contains some of the loftiest peaks of the Andes, two of which—Cotopaxi and Antisana—are among the highest volcanic cones on the earth. The dome of Chimborazo, on the west, upwards of 21,000 feet, has been lately surmounted by an English climber. Between the two parallel ranges, at a height of 9500 feet about the sea, stands the capital, Quito, in a lovely valley 200 miles long and 30 broad, encircled by snow-capped, smoke-and-fire-breathing

peaks, and blessed with eternal spring. The valley is well carpeted with natural grasses, and watered by the melting snows of the Andes. Its scenery, it need hardly be said, is of unrivalled grandeur. Many remains of the powerful Incas are to be seen in this valley.

The long eastern slopes of the mountains, drained by the head-waters of the Amazon, are richly clothed with forests, enclosing grassy savannahs. The steep western slopes leave room for short rivers only. One of these, however, the Guayaquil, allows ships to sail 100 miles inland, and take on board cacao and quinine near the plantations.

Six hundred miles westward in the Pacific, Ecuador owns the Galápagos, or Turtle Islands, so called from the gigantic tortoises found there alone, and thought to be centuries old. These dreary islands are of volcanic origin, and wholly uninhabited.

5. *Brazil.*

Bordered by the four states just described, and by five others yet to be named, the empire of Brazil has an area nearly equal to that of the United States or British North America, and little less than all Europe. Holding the Atlantic coast for 4000 miles, and reaching inland for nearly 2500 miles, this great empire covers almost the whole basin of the mighty Amazon, the head-waters of the great Plata river, and the entire course of other rivers of great size. Yet in all this vast and most fertile country dwell only eleven million people! The loftiest range in Brazil, the Organ Moun-

tains in the south-east, towers to a height of 7500 behind Rio de Janeiro, the capital, a town as large as Leeds. Spreading along the shores of its landlocked bay, overhung by mountains of the grandest outline, and surrounded with groves and gardens full of richest foliage and loveliest flowers, this city strikes every visitor as one of the fairest sights which earth can show.

The tableland, of which the mountains are the eastern edge, occupies half the empire, at a mean height of 2500 feet. Its general outline is that of a wedge, having one corner east of the mouth of the Amazon, another near La Plata, and the third near the falls of the Madeira.

Northward this tableland is drained by the rivers Tocantins, Paranahyba, and San Francisco (all three great rivers when compared with European streams); southward by the Paraná and the Paraguay. The latter river indeed defines the south-western edge of the tableland, as the Tocantins marks its north-western fringe, and the Atlantic shores its base, which is called the Serra de Mar, or Coast-Range.

The products of Brazil are of great value. Her forests supply useful timber, dye-woods, gums, coco-nuts, sago, wax, nuts, fruits, and quinine; her hill-sides, coffee; her lowlands, sugar, cotton, and rice; her mines, gold, quicksilver, copper, iron, salt, diamonds, emeralds, rubies, topazes, garnets, and amethysts; her pastures, countless flocks and herds of horses, cattle, and sheep; her rivers, abundance of fish. With such gifts from boon nature, her rich soil only awaits man's toil to make this the wealthiest country in the world.

The population is very much the same as that of

the other Central and South American states, already described. Spaniards, however, are here replaced by Portuguese. African slaves were yearly imported as late as 1855, and have not yet been all set free. There are more negroes in Brazil than in the neighbouring states. Along the Atlantic coast, B  hia and Pernambuco, having good ports and railways leading into the heart of the country, send immense quantities of coffee to Europe. The harbour of the latter port has a natural breakwater, formed by a coral reef, or 'recif  ,' which name this town sometimes bears.

From Para, on the estuary of the Tocantins, are shipped many loads of india-rubber, brought down from the forests by the river.

To the animals already named as inhabiting tropical America may be added the capivari, a kind of wild pig, which is very common on the river banks of Brazil.

6. *Peru.*

On an area nearly six times as large as Great Britain, the republic of Peru maintains only three million people. Its 1600 miles of sea-board is a dreary, rainless, earthquake-shaken slope, valuable only for the guano deposited by sea-birds, and shipped to England to replace the manure daily washed by our rivers to the sea.

Over the cold bleak plains of the Andes, overhung by some of its loftiest snow-clad cones, roam herds of llamas. For centuries these camel-like animals have been used by the Incas as beasts of burden. Here,

too, the gentle paco (or alpaca) has his native haunt, beside the snow-fed streams high up among the mountains. The silky lustrous wool of the alpaca, and the softer wool of the shrill-whistling vicuña, which also haunts these high plains, are much used in Yorkshire mills. On the lower plains flocks of buff-coloured, fleecy guanacos browse on the wiry grass.

Lima, the capital of Peru, with a splendid cathedral, founded by the conqueror Pizarro in 1534, lies at the foot of the coast-range. Its flat-topped houses are roofed with sun-dried clay, which a heavy shower would turn to mud. Its water is drawn from a stream fed by the snows of the overhanging heights. The houses are built in one storey, for fear of earthquakes. On the coast hard by, its fortified seaport, Calloa, with a good harbour, ships guano, nitre, sugar, metal, and wool. The ports of Arica, Iquique, and Truxillo also do a large shipping business. The large town of Arequipa, too, has a good trade. Cuzco, the capital of the ancient empire of the Incas, standing on the plateau about 11,400 feet above the sea, in a cool, dry, bracing air, is watered by one of the head-waters of the mighty Amazon. From Cuzco in olden times four well-kept roads led to the different quarters of the great empire of the Incas.

Peru is rich in silver. Her most productive mines are those of Pasco, nearly 14,000 feet high, which have been continuously worked for more than 250 years.

The cost of carriage up and down steep paths, which only mules can climb, is one of the greatest drawbacks to the welfare of Peru.

7. Bolivia.

This country, spreading wedge-wise eastward, is drained by the Madeira northward to the Amazon, by the Pilcomayo south-westward to La Plata.

Its western plateau contains the largest upland valley in the Andes, a basin 400 miles from north to south, and 30 to 60 miles wide, at a height of nearly 13,000 feet. Through its midst the Desaguadero bears south-eastward for 200 miles the overflow of Lake Titicaca, to another lake which has no seaward outlet. East and west the snow-clad peaks of Sorata, Illimani, the volcano Sahama, and others, tower more than 8000 feet above the plain. In this valley stands, at a height of 13,200 feet, La Paz, the largest town of Bolivia, and its main trade centre. On the plateau east of this, at a height of 13,280 feet, stands the decayed city of Potosi, the highest town in the world. Near it are the Silver Mountains, from which last century many thousand tons of silver were got. These mines were more than 16,000 feet above the sea. Farther east stands Chuquisaca, or Sucre, the capital, on a plateau 9250 feet high, which parts the waters of the Madeira and the Paraguay.

Bolivia has hides, wool, metals, etc., to spare, but as her one seaport, Cobija, is accessible only by mules, the country is at a great disadvantage for trading purposes. Till railways be made from the east coast to the foot of the Andes, her only roads are mule tracks and the waterways of the great rivers.

8. *Chile.*

We now quit the tropics for the south temperate zone. In advancing southward through the 1300 miles of sea-board occupied by Chile, we pass from the rainless region of the south-east trade-winds to the rainy north-west return currents ; from extremes of drought, therefore, to extremes of moisture.

The desert of Abacama, in the north, though incapable of growing crops, teems with mineral wealth, especially copper, which is sent to Swansea to be smelted. Central Chile grows very much the same crops as Southern Europe, and Southern Chile as Northern Europe. The hill-slopes in the south, having such a copious rainfall, are richly clothed with evergreen woods. There grows the prickly araucaria, called monkey-puzzle.

Though so long from north to south, the republic of Chile covers an area little larger than that of the British Isles, with a population of only $2\frac{1}{2}$ millions.

The Chilenos form a more orderly and peaceable community than the more northern Spanish republics, in which purposeless strife, civil war, and anarchy are only too common. Their less relaxing climate makes them a more vigorous and enterprising race. They have less Spanish and more Indian blood than their northern rivals.

Santiago, the capital, built upon a plateau rising from the plain, about the latitude of Sydney, has a delightful climate, and a magnificent view of some of the loftiest peaks of the Andes, including Aconcagua. The houses have but one storey, ranged round a

garden for safety during earthquakes. It is connected by a railway with the chief seaport, Valparaiso. Four hundred miles west of Santiago is the island of Juan Fernandez, on which Alexander Selkirk lived alone for four years, thus supplying Defoe with materials for his famous history of Robinson Crusoe. The more northerly port of Copiapo is noted for frequent slight earthquakes.

Crossing the Andes by the Uspallata pass, 12,800 feet above the sea, on the road from Valparaiso to Mendoza, we enter the

9. *Argentine Republic.*

This, after Brazil, is the largest state in South America, having nine times the area of Great Britain, with only two million inhabitants. Except near the Andes on the west, it is for the most part a flat, treeless plain, with a healthy, pleasant climate and little rain. The chief drawback arises from sudden changes of wind, and especially from the pampero, a strong south-west wind, which drives along clouds of dust. Its latitude corresponds with that of Natal, Cape Colony, and the north island of New Zealand. Being thus better adapted for Europeans than the lands on its north, it has a far larger proportion of white inhabitants. The crops and fruits grown are also mainly European. Its most fertile part is the north-west province of Tucuman. Lying on the spurs of the Andes, the west of the republic has a great variety of mineral wealth; but the lack of easy transport greatly lessens its value to

the state. The staple trade of the country is in horses, hides, horns, tallow, salted beef, and wool; for the coarse green sward of the pampas enables settlers to rear and tend with little toil or outlay vast droves of cattle. Their chief risk is from raids by wild Indians, who sometimes ride down upon the stations and harry the cattle. The herdsmen employed by white settlers to mind their flocks are called Gauchos, Indian half-breeds, who almost live on horseback. Screened from wet and cold by their 'poncho' (a rug of waterproof, felted hair or wool, with a hole in the middle through which the head is thrust), and armed with the lasso or bolas, these fearless horsemen scour the plain, keep the wild cattle within bounds, and catch them when wanted. The *lasso* is a rope fitted with a slip-knot noose, which the Gauchos hurl with such unerring aim that, as they gallop at full speed, they can throw it round the horns of their prey, and check its speed by forcing their own horse down on its haunches. The *bolas* is two heavy balls fastened together by a stout cord. Taking one ball in his hand, and whirling the other round his head like a sling, the Gaucho hurls the bolas at the legs of his prey, which thus entangled falls helpless. With a blow of the bolas he will dash in the skull of a puma skulking behind the high thistles which infest the pampas.

The main river of the country is the Paraná, nowhere less than a mile broad after entering the republic, and in places spreading out in side channels to a breadth of ten miles. It is formed by the union of the Upper Paraná and the Paraguay rivers near the north-east corner. The Vermejo, feeding the Paraguay on its

right bank, supplies a good waterway to the north-west ; as also does the Salado, which flows into the Paraná 400 miles farther south, and brings traffic to the town of Santa Fé. The streams which make eastward for the main river below this are dried up in crossing the plain, and end in marshes and salt lakes.

The chief centre of the cattle trade is the well-built town of Rosario, on the Paraná, to which a railway leading north-westward to Cordova brings in cattle and other produce for export.

Buenos Ayres (Good Air), the capital, and the only large town, stands on the estuary of La Plata, and sends out railways westward, south-westward, and southward, to bring to port the produce of the surrounding district. The site of this town is very ill-chosen, for the estuary there is so shallow and exposed that ships must lie at anchor twelve miles off. This, of course, adds greatly to the cost of transport.

10. *Paraguay.*

Wedged between the rivers Paraná and Paraguay lies the province of Paraguay, somewhat less than England, the only state in the continent without any sea-board. It has been reduced to a wretched plight by a disastrous war against the united strength of Brazil and the Argentine Republic.

It is chiefly noted for its tea, or yerba maté, a kind of holly-leaf, powdered and used for making a hot drink throughout South America. The hills parting its two rivers are densely clothed with fine timber

forests, while their western slopes afford abundant pasture for sheep and cattle.

11. *Uruguay,*

Sometimes called the Banda Oriental, or 'Eastern Side,' a country as large as Britain south of the Clyde, lies on the Rio de la Plata, facing Buenos Ayres, and wedged between the river Uruguay and the Atlantic. With a coast-line on one flank, a large river on the other, fed by another flowing through the heart of its land, it has great facilities for shipping its spare produce. This consists of cattle, horses, and sheep. Monte Video, the well-placed and well-built capital, is now doing a large business with Europe in tinned meat and extract of meat, as also in hides and tallow, in exchange for which she receives cotton and iron goods.

12. *Patagonia.*

Southward from the Rio Negro, which forms the southern border of the Argentine Republic, South America tapers to the cluster of islands known as Tierra del Fuego. To this land, which is about four times as large as Great Britain, the name Patagonia is usually given. The eastern coast is a succession of rounded bays, while the western sea-board, like the coast of Norway, is fretted with fiords, and lined with hundreds of lofty and craggy islands, as though another chain of Andes were sinking into or rising from the

seas. Sea-board and islands bear the name of Chiloe. Much of the flat terrace sloping eastward from the Andes is a shingly desert, and the climate towards the south is very wet, cold, and windy.

The Tehuelches, an olive-skinned race, averaging six feet in height, live by the chase of the guanaco and the ostrich. The Fuejians of the islands, on the other hand, though of the same race, are of dwarfish stature. Dressed in skins, like the ancient Britons, they live on what fish they catch, and what animals they shoot with bow and arrows. The islands are well wooded below the snow-line, above which the hollows are filled with glaciers, overhung here and there with active volcanoes.

THE END.





